

HALEY &  
ALDRICH

**BOEING REALTY CORPORATION  
FORMER C-6 FACILITY  
LOS ANGELES, CALIFORNIA**

**CLOSURE REPORT**

**UNDERGROUND STORAGE TANK 9T**

**To:** Mr. Brian Mossman  
Boeing Realty Corporation  
3855 Lakewood Blvd.  
Building 1A MC D001-0097  
Long Beach, CA 90846

**From:** Haley & Aldrich, Inc.

**Date:** January 30, 2002

**Re:** Closure Report, Underground Storage Tank 9T, Boeing Realty Corporation, Former C-6 Facility – Parcel A, Los Angeles, California

Haley & Aldrich, Inc. is herein providing this closure report to summarize the field investigation and laboratory analyses for the former 5,000-gallon capacity, waste acid underground storage tank (UST) 9T. Former UST 9T was located near the southeast corner of Building 41, on Parcel A of the Boeing Realty Corporation's (BRC's) Former C-6 Facility in Los Angeles, California as shown on Figures 1 and 2.

**INTRODUCTION**

Specific information regarding the size, installation, and removal dates of former UST 9T could not be located in BRC files. It is thought that UST 9T was removed prior to 2000 based on discussions with Mr. Scott Lattimore of The Boeing Company. According to BRC files, former UST 9T had a volume of approximately 5,000 gallons and was used to store waste acid. The location of former UST 9T is shown on a Woodward-Clyde Consultants Plot Plan dated October 21, 1971, which was used to facilitate this investigation. A copy of this map is included in Appendix A.

In 1992, Emcon Southwest (Emcon) prepared a report titled, *Closure Report for Underground Storage Tanks 9T, 10T, and 15T through 18T, Douglas Aircraft Company - Torrance Facility (C6)*. The report indicated that soil samples DAC-09 and DAC-10 were collected from the northern and southern ends of former UST 9T in 1991. Soil samples DAC-09 and DAC-10 were reported to have total chromium concentrations of 23 and 160 milligrams per kilogram (mg/kg), respectively. DAC-10 was also analyzed for hexavalent chromium (Soluble Threshold Limit Concentration [STLC]) and was reported to have not been detected (<0.10 milligrams per liter [mg/l]). The soil samples were also analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX), nitrate, sulfate and fluoride as reported in Table 1. BTEX was not detected. Emcon did not report the depth that soil samples DAC-09 and DAC-10 were collected.

Because the total chromium concentration in soil sample DAC-10 was 160 mg/kg and no depth data was provided for the soil samples collected, Haley & Aldrich proposed the installation of three soil borings in the vicinity of the former 9T UST to evaluate if UST-related soil impacts exist. One of the proposed soil borings was recommended in the former location of DAC-10 to further assess the total chromium. The other two borings were proposed to be placed at the approximate ends of the UST (Figure 3). The soil samples were proposed to be analyzed for total chromium by EPA Method 6010B and pH by EPA Method 9054C. Two soil samples (the 10-foot and 15-foot) from the soil boring to be drilled in the former location of DAC-10 will also be analyzed for volatile organic compounds (VOCs) by EPA Method 8260B. The proposed boring locations and laboratory analytical program were presented to the Regional Water Quality Control Board (RWQCB) on October 25, 1991. Mr. John Geroch of the RWQCB verbally approved the approach on October 25, 2001.

## FIELD ACTIVITIES

The scope of work consisted of locating the reported former UST 9T position using a registered land surveyor, utility clearance, advancement of the soil borings, and laboratory analysis of the soil samples. These tasks are discussed below.

TAIT & Associates, Inc. (Tait), BRC's on-site surveyor, was tasked to locate the former UST 9T position as shown on the Woodward-Clyde Plot Plan using the present site coordinate system and surveyed benchmarks. A registered land surveyor from Tait surveyed the reported location of former UST 9T on November 9, 2001. Based on the Woodward-Clyde Plot Plan, Tait reported that former UST 9T was located at approximately 12760.00 easting and 12848.00 northing and marked the location in the field. Appendix B includes a survey report from Tait regarding the location of former UST 9T. Based on this surveyed location, the three proposed soil borings were located as shown on Figure 3.

On November 8, 2001, Haley & Aldrich notified Underground Service Alert of Southern California (USA) for utility clearance of the three borings. USA issued ticket number 660825 and notified utility companies of the proposed work. Utility companies were given two days to visit the site and mark any buried utility lines in the area. Also, a private utility locator, Geovision Spectrum (Geovision), marked the area for utilities. Geovision reported unknown anomalies on the ground in the vicinity of former UST 9T as shown on Figure 3.

Kehoe Testing and Engineering, Inc. (Kehoe) was contracted by Haley & Aldrich to install the soil borings. Three soil borings (DP\_9T\_1, DP\_9T\_2 and DP\_9T\_3) were completed in the vicinity of former UST 9T on December 20, 2001 as shown on Figure 3. Soil borings DP\_9T\_1 and DP\_9T\_3 were located approximately 8-feet west and 8-feet east of the center of the reported former UST 9T position. Soil boring DP\_9T\_2 was located approximately 4 feet north of the center of the reported former UST 9T, in the approximate location of DAC-10 based on Figure 2 in the Emcon report (Figure 3). The Emcon report is included as Appendix C. Soil samples were collected at depths of 5, 10, 15, and 20 feet bgs in each boring. Borings were advanced to sampling depths using a truck-mounted Geoprobe 5410 direct-push rig. Samples were collected in 1-inch diameter by 6-inch long brass sleeves. Soils were described and logged by a Haley & Aldrich geologist at the site using the Unified Soil Classification System (USCS). Boring logs are attached in Appendix D.

Sample sleeves were sealed with Teflon sheets and plastic caps. Samples were placed in a cooler with blue ice and transported under standard Chain-of-Custody (COC) procedures to Severn Trent Services (STL) in Santa Ana, California for laboratory analyses.

All of the samples were analyzed for Title 22 Metals by EPA Method 6010B/7471A and pH by EPA Method 9045C. Soil Samples DP\_9T\_2\_10 and DP\_9T\_2\_15, collected from the former location of soil sample DAC-10, were also analyzed for VOCs by EPA Method 8260B.

## INVESTIGATION RESULTS AND CONCLUSIONS

Results of the former UST 9T investigation suggest that no apparent chemical soil impacts are present as a result of the UST operation. Based on the results of the laboratory analysis of the twelve soil samples, total chromium was detected at concentrations ranging from 21.3 to 41.0. Given the low total chromium concentrations, analysis for hexavalent chromium was not performed. VOCs were not detected in the two soil samples (DP\_9T\_10 and DP\_9T\_15). The results for pH were reported to range from 7.2 to 8.5. Table 2 summarizes the analytical results for former UST 9T. The laboratory reports are included in Appendix E.

Based upon the investigation performed as described in this letter report and the results of previous soil sampling in the area, no apparent soil impacts associated with former UST 9T were found. Haley & Aldrich proposes submitting UST 9T for closure and no further action with the RWQCB.

Sincerely yours,  
HALEY & ALDRICH, INC.

Richard M. Farson, PE  
Project Engineer



Scott Zachary  
Project Manager



### Attachments:

Table 1 - Former UST 9T Previous Soil Analytical Results - 1991  
Table 2 - Former UST 9T Soil Analytical Results - 2001

Figure 1 - Site Location Map  
Figure 2 - Tank Location Map  
Figure 3 - Boring Locations and Laboratory Analytical Map

Appendix A - Woodward-Clyde Plot Plan  
Appendix B - Surveyor Report  
Appendix C - Emcon Report, 1992  
Appendix D - Boring Logs  
Appendix E - Laboratory Report & Chain of Custody

**Boeing Realty Corporation**  
3760 Kilroy Airport Way, Suite 500  
Long Beach, CA 90806  
Telephone: 562-627-4900  
FAX: 562-627-4906

31 January 2002  
C6-BRC-T-02-003

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
Los Angeles Region  
320 W. 4<sup>th</sup> Street, Suite 200  
Los Angeles, CA 90013

  
**BOEING**  
Attention: John Geroch

Subject: **CLOSURE REPORT FOR UNDERGROUND STORAGE TANK 9T  
AND CLOSURE REPORT FOR UNDERGROUND STORAGE TANK  
29T FOR BOEING REALTY CORPORATION, FORMER C-6  
FACILITY, 19503 SOUTH NORMANDIE AVENUE, LOS ANGELES,  
CA**

Dear Mr. Geroch:

Please find enclosed for your review, copies of the subject documents prepared by Haley & Aldrich for Boeing Realty Corporation.

If you have any questions concerning this document, please contact the undersigned at 562-593-8623.

Sincerely,



Stephanie Sibbett  
Boeing Realty Corporation

Cc: Mario Stavale, Boeing Realty Corporation

enclosure

Tables

## **TABLES**

**TABLE 1**  
**FORMER C-6 FACILITY, LOS ANGELES, CALIFORNIA**

**FORMER UST 9T  
 PREVIOUS SOIL ANALYTICAL RESULTS - 1991**

Sample ID	Date Sampled	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total Chromium	Nitrate	Sulfate	Fluoride	Hexavalent Chromium (STLC)
DAC-09	10/19/1991	< 0.005	< 0.005	< 0.005	< 0.005	23	<10	12	66	NA
DAC-10	10/19/1991	< 0.005	< 0.005	< 0.005	< 0.005	160	27	250	<25	<0.10

**NOTES:**

Source: Closure Report for Underground Storage Tanks 9T, 10T, and 15T through 18T, Douglas Aircraft Company - Torrance Facility (C6), prepared by Emcon Southwest, 1992.

All concentrations in milligrams per kilogram (mg/kg), except hexavalent chromium.

STLC = Soluble Threshold Limit Concentration

Hexavalent chromium (STLC) reported in milligrams per liter (mg/l).

< = Less than

QA/QC: BB  
 Date: 1/30/02

**TABLE 2**  
**FORMER C-6 FACILITY, LOS ANGELES, CALIFORNIA**

**FORMER UST 9T  
SOIL ANALYTICAL RESULTS - 2001**

Soil Boring	Sample ID	Depth (feet bgs)	Analyte		
			Chromium (mg/kg)	pH	VOCs (µg/kg)
DP_9T_1	DP_9T_1_5	5	30.1	7.2	NA
	DP_9T_1_10	10	37.5	8.4	NA
	DP_9T_1_15	15	28	8.5	NA
	DP_9T_1_20	20	32.5	8.2	NA
DP_9T_2	DP_9T_2_5	5	27.5	8	NA
	DP_9T_2_10	10	31.7	7.7	ND
	DP_9T_2_15	15	33.3	8.1	ND
	DP_9T_2_20	20	37.5	7.9	NA
DP_9T_3	DP_9T_3_5	5	9.8	8.3	NA
	DP_9T_3_10	10	41	8.5	NA
	DP_9T_3_15	15	28.3	7.7	NA
	DP_9T_3_20	20	21.3	7.8	NA

**NOTES:**

mg/kg = milligrams per kilogram

There are no units for pH.

µg/kg = micrograms per kilogram

bgs = below ground surface

ND = Not Detected; All of the analytes were not detected above laboratory detection limits.

NA = Not Analyzed

QA/QC: BB  
Date: 1/30/02

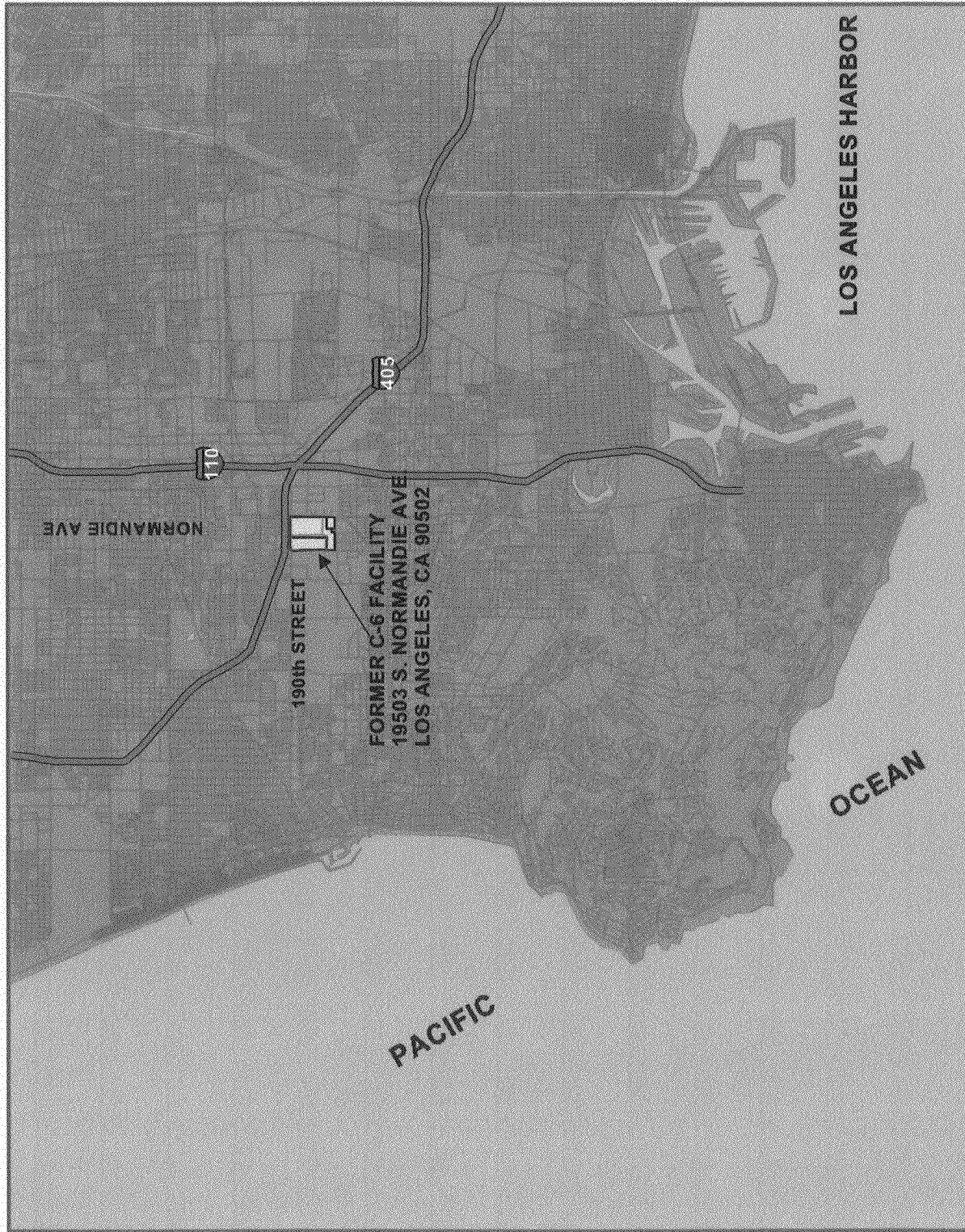
Figures

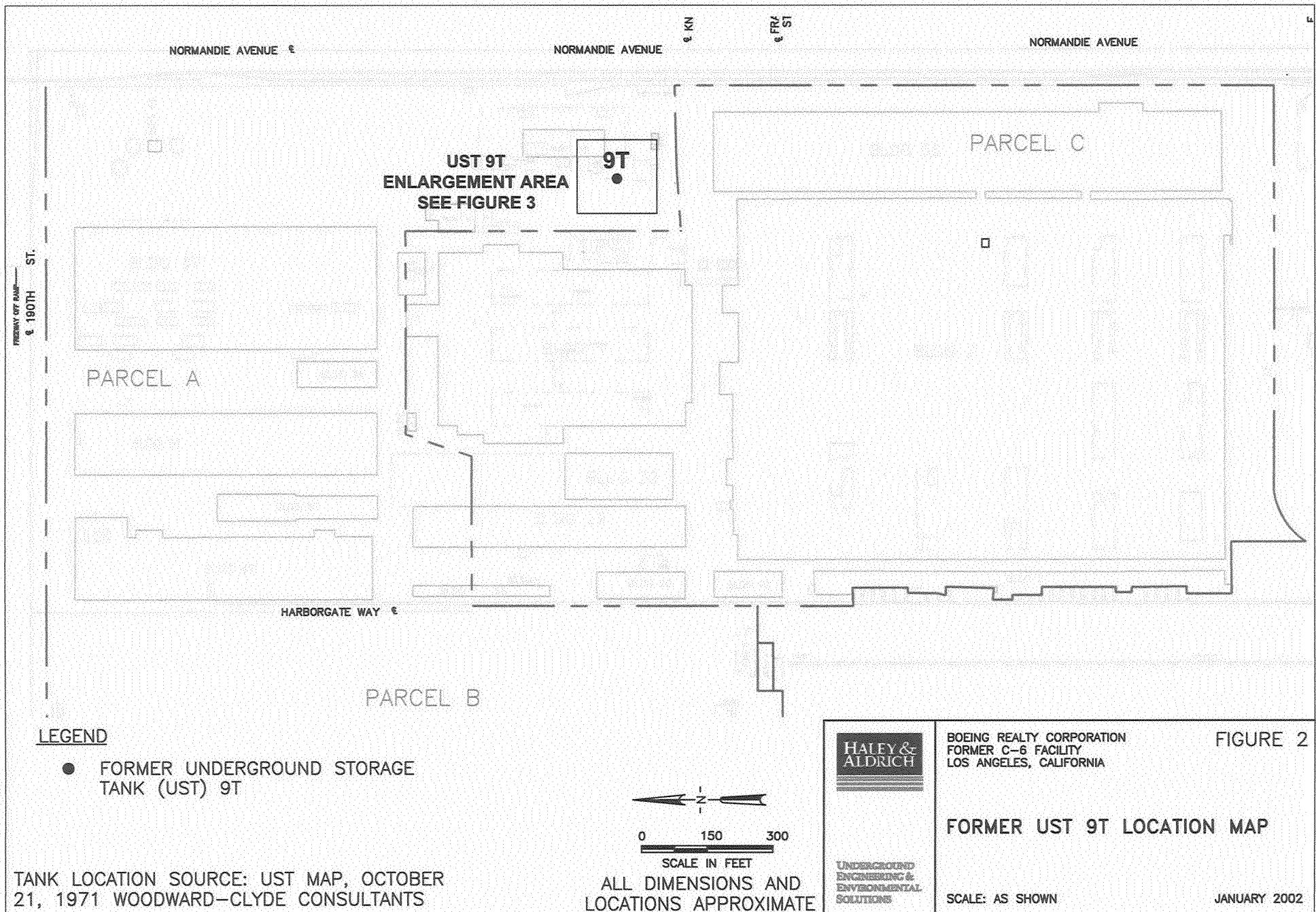
## **FIGURES**

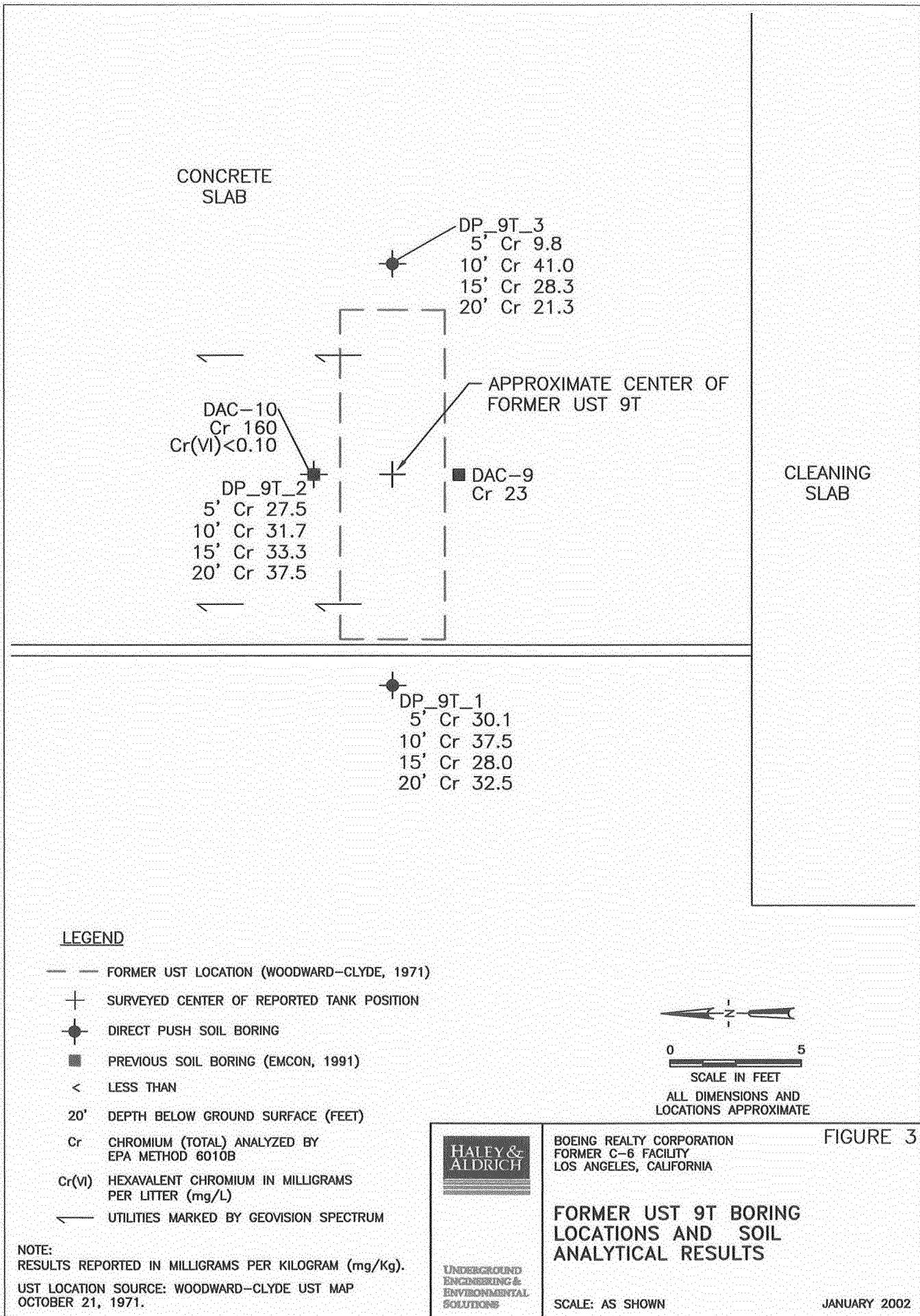
Figure 1  
Site Location Map



Boeing Reality Corporation  
Former C-6 Facility  
Los Angeles, California

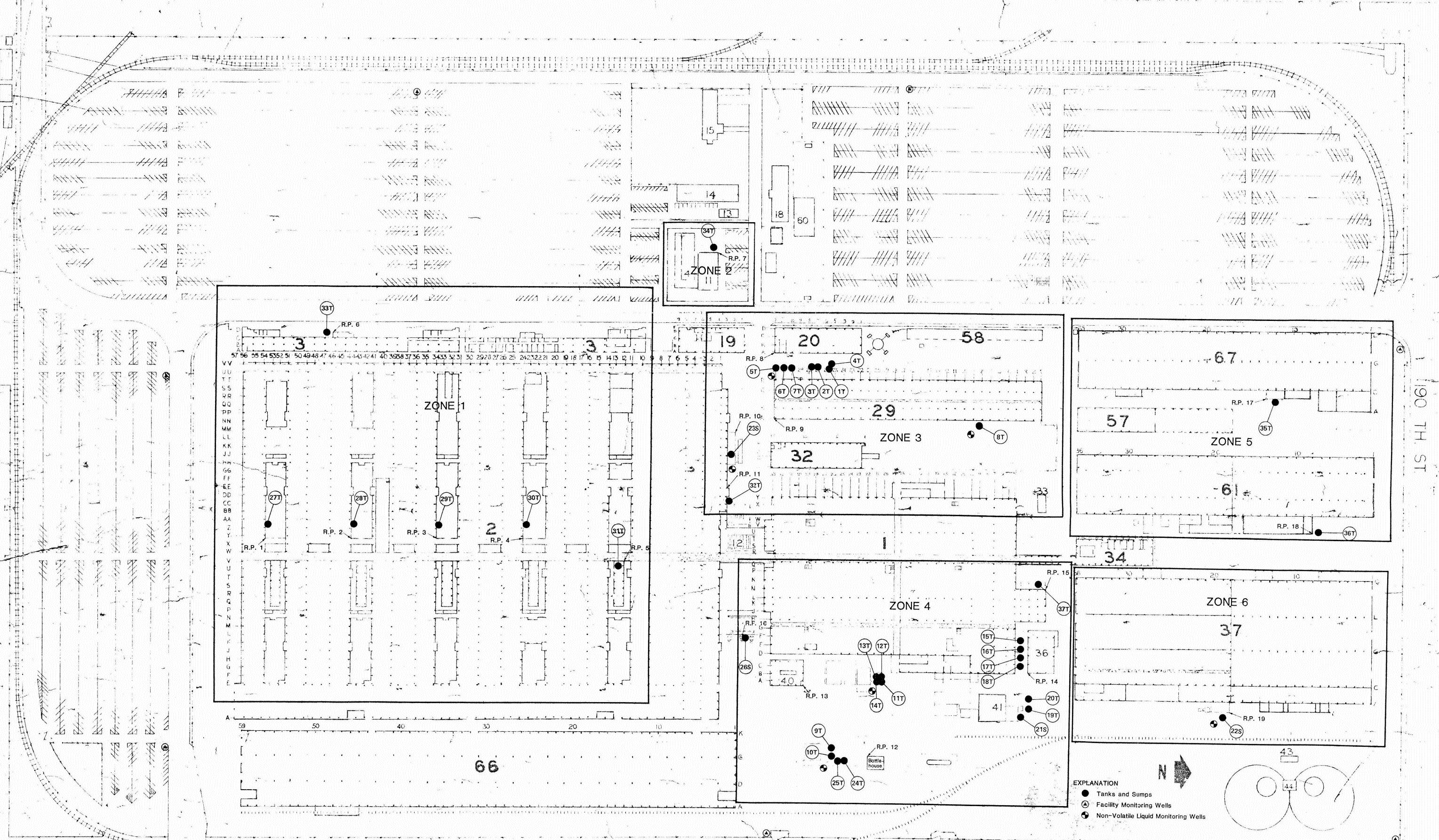






Appendix A

**APPENDIX A**  
**WOODWARD-CLYDE PLOT PLAN, 1971**



B00C6-018417

Woodward-Clyde Consultants
<b>TANK LOCATION MAP</b>
DOUGLAS AIRCRAFT CO. 41863A
PLATE 3

NORMANDIE AVE.

SIGNATURE	DATE
ENGR	2-12-86
DWN	3-1-86
CKD	
APP'D	
APP'D	

**PLOT PLAN**

SCALE: BLDG. DIM. TYPE  
1 = 100'

DOUGLAS AIRCRAFT COMPANY INC.  
FACILITIES PLANNING  
AIRCRAFT GROUP TORRANCE CAL.

C6-701-PL-1015  
DRAWING NUMBER

Appendix B

**APPENDIX B**  
**SURVEYOR REPORT**



**TAIT & Associates, Inc.**  
Engineering • Planning • Surveying

January 27, 2002

Haley & Aldrich, Inc.  
9040 Friars Road, suite 220  
San Diego, CA 92108  
ATTN: Beth Breitenbach

RE: UST "29T" & "9T" at Boeing Realty Corp. C-6 Facility

Dear Ms. Breitenbach:

On November 7, 2001 we received a blue-line map prepared by Woodward-Clyde in 1971. This map graphically showed the location of the UST's referenced above.

Per the request of Mr. Travis Hammond, of your office, we determined the coordinates of these items by scaling from multiple building corners that were common to the TAIT digital files and the Woodward-Clyde drawing. Mr. Hammond was informed that due to the errors inherent to working with blue-lines and scales that the coordinates we probably plus or minus 10'.

On November 8, 2001 our field crew set stakes on-site at these locations. This was done to enable Haley & Aldrich to perform a search for the above referenced tanks.

The local site coordinates used by the TAIT field crew for this staking are as follows:

ITEM #	NORTHING	EASTING
9T	12848	12760
29T	11912	12257

If we can be of further service please do not hesitate to contact us.

Sincerely,

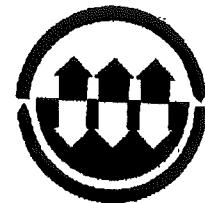
TAIT & ASSOCIATES, INC.

Michael Simon, P.L.S.  
Survey Manager



Appendix C

**APPENDIX C**  
**EMCON REPORT, 1991**



**EMCON**  
*Southwest*

April 27, 1992  
Project C34-08.01

Mr. Boramy Ith  
Douglas Aircraft Company  
3855 Lakewood Boulevard  
Mail Code 74-41  
Long Beach, California 90846

**Subject: Closure Report for Underground Storage  
Tanks 9T, 10T, and 15T through 18T  
Douglas Aircraft Company - Torrance Facility (C6)  
19503 South Normandie Avenue  
Torrance, California 90502 (Contract LS-25833-C)**

Dear Mr. Ith:

EMCON Southwest (EMCON) is pleased to report the tank closure and related soil sampling activities for underground storage tanks no. 9T, 10T, and 15T through 18T at the referenced Douglas Aircraft Company (DAC) facility. The closure and sampling activities were performed at the request of DAC in accordance with EMCON's revised workplan dated August 30, 1991.

#### **SUMMARY**

The following is a summary of the findings and conclusions of tank closure and soil sampling activities which are discussed in the remainder of this report.

- Excavation and removal of underground storage tanks 9T, 10T, and 15T through 18T were completed during October 11 and 12, 1991.
- Vadose wells 9TW and 10TW (adjacent to tanks 9T and 10T) and a concrete wash slab (near tank 15T) were removed and a surface runoff drain (adjacent to tank 9T) was backfilled during excavation activities.

PJC03408010.DOC

Mail to: P.O. Box 7894, Burbank, California 91510-7894  
3300 N. San Fernando Blvd., Burbank, California 91504 (818) 841-1160

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- A total of 18 soil samples were collected for chemical analysis from beneath the tanks, the excavated soil piles, and the piping area located between tank 15T and building 36.
- No concentrations of total petroleum hydrocarbons (TPH), benzene, toluene, xylenes, ethylbenzene (BTXE), or hexavalent chromium were detected in soil samples collected from the excavation for tanks 9T and 10T.
- No concentrations of BTXE were detected in soil samples collected from the excavation for tanks 15T through 18T, the associated spoil piles, and the piping area near tank 15T.
- TPH concentrations were detected in soil samples collected from the spoil piles, beneath tanks 15T through 18T and the piping area near tank 15T.
- TPH concentrations detected from the spoil piles and piping area exceed the cited regulatory guidelines.
- Concentrations of chromium, nitrate, sulfate, and fluoride detected beneath tank 9T and the associated spoil pile were below cited regulatory criteria.

## BACKGROUND

The project site is located southwest of the intersection of Normandie Avenue and 190th Street in Torrance, California (see Figure 1). Tanks no. 9T and 10T were located north of DAC building no. 66. Tanks no. 15T through 18T were located between DAC buildings no. 1 and 36.

EMCON prepared a workplan for the removal of tanks 9T, 10T, and 15T through 18T (EMCON, January 21, 1991). During a June 19, 1991 meeting, DAC requested an additional scope of work which was incorporated into EMCON's revised workplan (EMCON, August 30, 1991). The additional tasks requested by DAC included:

- removal of 2 vadose wells (9TW and 10TW) located adjacent to tanks 9T and 10T
- closure of a surface runoff drain adjacent to tank 9T
- removal of a concrete wash slab near tank 15T

*Mr. Duramy III*

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According to DAC, the following constituents were previously stored in these tanks:

- |                            |   |
|----------------------------|---|
| • tank 9T (5,000 gallon)   | waste acid                                  |
| • tank 10T (10,000 gallon) | waste water, oil, and soap                  |
| • tank 15T (3,000 gallon)  | waste solvents                              |
| • tank 16T (5,000 gallon)  | trichloroethane                             |
| • tank 17T (5,000 gallon)  | trichloroethane                             |
| • tank 18T (5,000 gallon)  | methylene chloride<br>and isopropyl alcohol |

Analytical data provided by DAC for soil borings and vadose wells located in the immediate vicinity of tanks 15T through 18T indicate that concentrations of methylene chloride, 1,1,1-trichloroethane, trichloroethylene, toluene, xylenes, and ethylbenzene were detected at depths ranging from approximately 5 to 20 feet below grade (see Attachment 1). The location of the DAC soil borings and vadose wells are shown in Figure 2. It is EMCON's understanding that assessment of this area is currently under the jurisdiction of the California Regional Water Quality Control Board (RWQCB). Soil samples collected from this area by EMCON were analyzed for those compounds specified by the Los Angeles City Fire Department (LACFD).

## TANK REMOVAL

Tank excavation and soil sampling activities were conducted under the jurisdiction of the Los Angeles City Fire Department (LACFD), permit no. 1856. A copy of the permit is included in Attachment 2.

Tanks 9T, 10T, and 15T through 18T were excavated by Disposal Control Service (DCS), under the supervision of EMCON during October 11 and 12, 1991. During excavation of tanks 9T and 10T, vadose monitoring wells 9TW and 10TW were removed and the adjacent concrete surface drain was backfilled. During excavation of tank 15T the concrete wash slab was removed. The tank interiors were high pressure cleaned in compliance with LACFD requirements. The rinseate liquids from tank 9T were removed by DCS and transported to Norris Industries, in Los Angeles, California (see Attachment 3). Rinseate liquids from tank 10T were transported by DCS to Chem-Tech Systems, Inc. in Vernon, California. Rinseate from tanks 15T through 18T were stored on site pending future consideration of disposal options. Prior to transport all

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tanks were certified as clean by CTL Environmental Services of Harbor City, California (see Attachment 4). Following certification the tanks were transported by DCS to American Metal Recycling, Ontario, California to be destroyed for scrap purposes (see Attachment 5).

Excavated soils related to tanks 9T and 10T were stockpiled on site for subsequent disposal by DAC. Excavated soils from tanks 15T through 18T were returned to the excavation following tank removal, pending further site assessment as requested by the LACFD and DAC. Clean gravel and soil was used as backfill in the excavations to account for the volume of removed tanks and soil. Backfilled soils were compacted to approximately 90 percent relative compaction as certified by Duco Engineering, Inc. of Walnut, California (see Attachment 6). The excavations were completed with approximately 6-inch-thick asphalt surfacing.

## SOIL SAMPLING

Soil samples from both excavations and the spoil piles were collected by EMCON under the direction of the LACFD. Soil sampling procedures are included in Attachment 7.

### Tanks 9T and 10T

A total of five soil samples (DAC-06 through DAC-10) were collected beneath tanks 9T and 10T for laboratory analysis (see Figure 2). In addition a total of four soil samples (DAC-15 through DAC-18) were collected from the associated spoil piles.

### Tanks 15T through 18T

A total of five soil samples (DAC-01 through DAC-05) were collected beneath tanks 15T through 18T (see Figure 3). Three soil samples (DAC-12 through DAC-14) were collected from the associated spoil pile. One sample (DAC-11) was collected beneath excavated piping located between tank 15T and building no. 36.

## LABORATORY ANALYSES

All soil samples were analyzed by a California-certified analytical laboratory for compounds specified by the LACFD as follows:

- Soil samples collected from beneath tanks 10T, 15T through 18T, and the spoil piles were analyzed for total petroleum hydrocarbons (TPH) by U.S. EPA Method 8015.

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- All soil samples were analyzed for benzene, toluene, xylenes, and ethylbenzene (BTXE) by U.S. EPA Method 8020.

In addition to the above analyses required by the LACFD, soil samples collected from beneath tank 9T and the associated spoil pile were analyzed for compounds previously contained in tank 9T. These additional analyses, completed according to EMCON's revised workplan (August 30, 1991) included:

- total chromium by U.S. EPA Method 7190
- anion scan for nitrates, sulfates, and fluorides by U.S. EPA Method 300.0 modified

At the request of DAC sample DAC-10, collected beneath tank 9T, was analyzed for soluble threshold limit concentration (STLC) hexavalent chromium by U.S. EPA Method 7197.

The certified analytical reports and chain-of-custody documentation are included in Attachment 8.

## FINDINGS

### Tanks 9T and 10T

As shown in Table 1, no concentrations of TPH (<10 mg/kg) or BTXE (<0.005 mg/kg) were detected in soil samples collected from beneath tanks 9T and 10T (DAC-06 through DAC-10). In addition no concentrations of BTXE were detected in soil samples collected from the spoil piles (DAC-15 through DAC-18). TPH concentrations (up to 4,100 mg/kg) were detected in soil samples DAC-15 through DAC-18 collected from the spoil piles.

No concentrations of hexavalent chromium (<0.10 mg/L) were detected in sample DAC-10.

Concentrations of total chromium (up to 160 mg/kg), nitrate (27 mg/kg), sulfate (up to 250 mg/kg), and fluoride (66 mg/kg) were detected in soil samples collected from beneath tank 9T (DAC-09 and DAC-10). Concentrations of total chromium (450 mg/kg) and sulfate (1,000 mg/kg) were detected in soil sample DAC-15, collected from the spoil pile associated with tank 9T.

~~CONFIDENTIAL~~

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### Tanks 15T through 18T

BTXE concentrations (<0.005 mg/kg) were not detected in soil samples collected from beneath tanks 15T through 18T (DAC-01 through DAC-05), the spoil pile (DAC-12 through DAC-14), and the piping between tank 15T and building no. 36 (DAC-11). TPH concentrations were detected in soil samples collected from beneath tanks 15T through 18T (up to 45 mg/kg), the spoil pile (up to 73 mg/kg), and the piping area (700 mg/kg).

### REGULATORY CRITERIA AND GUIDELINES

Soil regulatory criteria and guidelines are discussed below and summarized in Table 1.

#### Total Threshold Limit Concentrations

The California Code of Regulations (CCR), Title 22, Division 4.5 establishes numerical criteria to determine if a waste should be considered hazardous (CCR, May 1991). These criteria include the total threshold limit concentration (TTLC) which is the total concentration of a substance (in a solid material), which is considered hazardous for the purpose of disposal. A solid waste with a concentration of a specific element or compound equal to or above the TTLC is considered a hazardous waste because of the persistent and bioaccumulative nature of the specific toxic substance present.

TTLC values are not defined for constituents detected in soil samples DAC-01 through DAC-18 with the exception of chromium and fluoride. Concentrations of these two constituents were all below the respective TTLC values.

#### Soluble Threshold Limit Concentration

The California Code of Regulations (CCR), Title 22, Division 4.5 establishes numerical criteria to determine if a waste should be considered hazardous (CCR, May 1991). These criteria include the soluble threshold limit concentration which is the soluble concentration (mg/L) of a substance (in a liquid) which is considered hazardous for the purpose of disposal. A solid waste which, after treatment with the waste extraction test (WET), produces dissolved concentrations of specific substances in excess of their STLCs is considered a hazardous waste because of the extractable and persistent bioaccumulative nature of the specific toxic substance present.

Mr. Boramy Ith

April 27, 1992.

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### Soil Ingestion Screening Values

Soil Ingestion Screening Values (SSVs) are used by Cal-EPA as a preliminary method to assess whether or not significant impact has occurred to soils at a site (DHS, June 22, 1990). SSVs can be used to show that a site is not significantly impacted, leading to an issuance of "No Further Action" determination by the DHS. However, SSVs cannot be used as site cleanup levels and pertain only to human health risk, not environmental risk. Therefore a site with low SSVs may require remediation as determined by the DHS. Concentrations of compounds in soils which exceed an SSV but are below background are assumed to indicate the naturally occurring concentrations of these compounds.

SSVs are not defined for the compounds detected in soil samples DAC-01 through DAC-18 with the exception of chromium, nitrate, fluoride. Concentrations of these three compounds were all below the respective SSVs.

### Petroleum-Hydrocarbon Guidelines

Guidelines have been established by the RWQCB-Lahontan Region for petroleum-hydrocarbon impacted soils (RWQCB, January 7, 1987). Soils with petroleum-hydrocarbon concentrations that exceed 1,000 mg/kg commonly require removal, remediation, or a justification as to why removal or remediation are not warranted. Soils with petroleum-hydrocarbon concentrations between 100 and 1,000 mg/kg are typically reviewed on a case-by-case basis to assess if removal or remediation is necessary. Removal of soils with petroleum-hydrocarbon concentrations less than 100 mg/kg is generally not required by the RWQCB. Waste oil cleanup standards are decided on a case-by-case basis. These guidelines are sometimes used by other regulatory agencies.

TPH concentrations exceeding the RWQCB guidelines were detected in soil samples collected from the spoil piles associated with tanks 9T and 10T (DAC-15 through DAC-18) and from the piping area near tank 15T (DAC-11). Disposal of excavated soils from these areas was subsequently managed by DAC.

### CONCLUSIONS

Based on our findings, EMCON presents the following conclusions:

- No concentrations of TPH, BTXE, or hexavalent chromium were detected in soil samples collected beneath tanks 9T and 10T.

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- No concentrations of BTXE were detected in soil samples collected from the spoil piles, beneath tanks 15T through 18T, or the piping area near tank 15T.
- TPH concentrations were detected in soil samples collected from the spoil piles beneath tanks 15T through 18T, and the piping area near tank 15T.
- TPH concentrations detected from the spoil piles and the piping area exceed the cited regulatory guideline.
- Concentrations of chromium, nitrate, sulfate, and fluoride were detected beneath tank 9T and the associated spoil pile and are below the cited regulatory criteria.

The closure assessment and report were performed and prepared using generally accepted consulting and engineering procedures and practices, and within the limits described in Attachment 9.

If you have any questions regarding the report please do not hesitate to call us at (818) 841-1160.

Sincerely,

EMCON Southwest

*Scott N. Sankey*  
Scott N. Sankey

Project Geologist

*Keith G. Farrell*

Keith G. Farrell  
Director of Geology

SNS/KGF:keb

**Attachments: References**

- Table 1 - Summary of Soil Analytical Results
- Figure 1 - Site Location Map
- Figure 2 - Location of Tanks 9T and 10T
- Figure 3 - Location of Tanks 15T through 18T
- Attachment 1 - Analytical Data From DAC Soil  
Borings 15TB and 17TB and Vadose  
Wells B-6 through B-8
- Attachment 2 - Los Angeles City Fire Department - Tank Removal Permit
- Attachment 3 - Uniform Hazardous Waste Manifests for Rinseate Liquids
- Attachment 4 - Certified Industrial Hygienist Certificate
- Attachment 5 - Certification of Tank Disposal
- Attachment 6 - Compaction Report - Tank Excavation Backfill
- Attachment 7 - Soil Sampling and Tank Removal Monitoring
- Attachment 8 - Certified Analytical Report and Chain-of-Custody Documentation
- Attachment 9 - Limitations

cc: Inspector Don Smith,  
Los Angeles City Department of Fire

## REFERENCES

---

- CCR, May 1991, California Code of Regulations, Title 22, Division 4.5, 1991.
- DHS, June 22, 1990, Interim Guidelines for Preparation of a Preliminary Endangerment Assessment Report: California Department of Health Services.
- EMCON, August 30, 1991, Workplan for Underground Storage Tank Removal, Douglas Aircraft Company, Torrance Facility (C6), 19503 South Normandie Avenue, Torrance, California: EMCON Associates, Burbank, California (project no. C34-08.01).
- EMCON, January 21, 1991, Transmittal of Bid No. C1-151-7BD-032: EMCON Associates, Burbank, California (project no. C34-08.01).
- Federal Register, Volume 55, No. 134, July 27, 1990, 40 CFR Parts 264, 265, 270, and 271 Corrective Action for Solid Waste Management Units at Hazardous Waste Management Facilities; Proposed Rule.
- RWQCB, January 7, 1987, Guidelines for the Disposal of Effluent from Fuel and/or Solvents Contaminated Ground-Water Treatment Systems and Cleanup of Petroleum Hydrocarbon Contaminated Soils: California Regional Water Quality Control Board - Lahontan Region.

Project C34-08.01

TABLE 1  
SUMMARY OF SOIL ANALYTICAL RESULTS  
Douglas Aircraft Company Torrance Facility (C6)  
19503 South Normandie Avenue, Torrance, California

Page 1 of 2

Sample No.	Location	Date Sampled	TPH (1) (mg/kg)	Benzene (2) (mg/kg)	Toluene (2) (mg/kg)	Total Xylenes (2) (mg/kg)	Ethylbenzene (2) (mg/kg)	Total Chromium (3) (mg/kg)	Nitrate (4) (mg/kg)	Sulfate (4) (mg/kg)	Fluoride (4) (mg/kg)	STLC Hexavalent Chromium (5) (mg/L)
DAC-01		10/19/91	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--
DAC-02		10/19/91	45	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--
DAC-03	excavation (15T - 18T)	10/19/91	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--
DAC-04		10/19/91	28	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--
DAC-05		10/19/91	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--
DAC-06		10/19/91	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--
DAC-07	excavation (10T)	10/19/91	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--
DAC-08		10/19/91	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--
DAC-09		10/19/91	--	<0.005	<0.005	<0.005	<0.005	23	<10	12	66	--
DAC-10	excavation (9T)	10/19/91	--	<0.005	<0.005	<0.005	<0.005	160	27	250	<25	<0.10
DAC-11	piping (15T)	10/19/91	700	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--
DAC-12		10/19/91	73	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--
DAC-13	spoil pile (15T-18T)	10/19/91	24	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--

Project C34-08.01

Page 2 of 2

TABLE 1  
 SUMMARY OF SOIL ANALYTICAL RESULTS  
 Douglas Aircraft Company Torrance Facility (C6)  
 19503 South Normandie Avenue, Torrance, California

Sample No.	Location	Date Sampled	TPH (1) (mg/kg)	Benzene (2) (mg/kg)	Toluene (2) (mg/kg)	Total Xylenes (2) (mg/kg)	Ethylbenzene (2) (mg/kg)	Total Chromium (3) (mg/kg)	Nitrate (4) (mg/kg)	Sulfate (4) (mg/kg)	Fluoride (4) (mg/kg)	STLC Hexavalent Chromium (5) (mg/L)
DAC-14	spoil pile (15T-18T)	10/19/91	<10	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--
DAC-15		10/19/91	2900	<0.005	<0.005	<0.005	<0.005	450	<10	1000	<25	--
DAC-16		10/19/91	4100	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--
DAC-17	spoil piles (9T-10T)	10/19/91	57	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--
DAC-18		10/19/91	1200	<0.005	<0.005	<0.005	<0.005	--	--	--	--	--

Regulatory Criteria and Guidelines:												
TTLC (6)	nc	nc	nc	nc	nc	nc	2500	nc	nc	18,000	500	
STLC (7)	nc	nc	nc	nc	nc	nc	560	nc	nc	180	5	
SSV-chronic (8)	nc	nc	nc	nc	nc	nc	1,000,000	1,000,000	nc	80,000	nc	
SSV-5year (8)	nc	nc	nc	nc	nc	nc	2,000	2,000	nc	100	nc	
RWQCB (9)	100	nc	nc	nc	nc	nc	nc	nc	nc	nc	nc	

Soil samples analyzed by Golden State Analytical Services, Inc., Van Nuys, California.

-- = not analyzed.

nc = no criteria or guideline established

(1) TPH (Total Petroleum Hydrocarbons) analyzed using U.S. EPA Method 418.1.

(2) Analyzed using U.S. EPA Method 8020.

(3) Analyzed using U.S. EPA Method 7190.

(4) Analyzed using U.S. EPA Method 300.0m.

(5) Analyzed using U.S. EPA Method 7197.

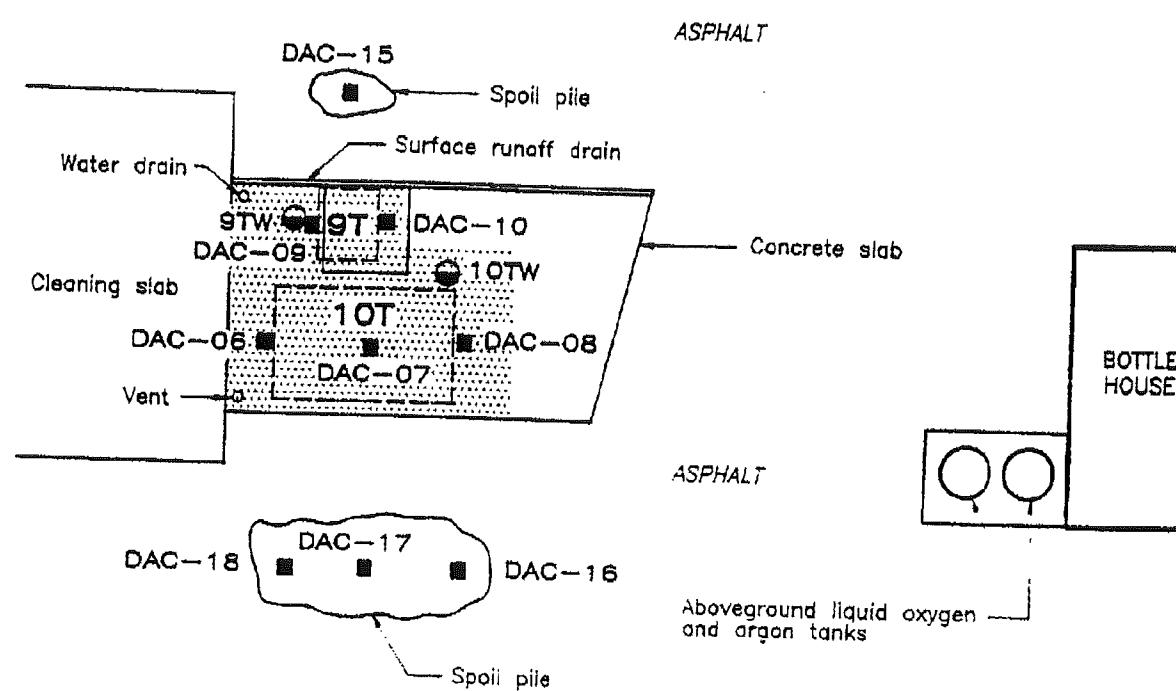
(6) = Total Threshold Limit Concentration (California Code of Regulations, Title 22, Division 4.5).

(7) = Soluble Threshold Limit Concentration, in mg/L (California Code of Regulations, Title 22, Division 4.5).

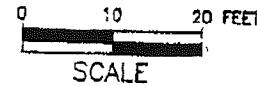
(8) = Soil Ingestion Screening Values (Interim Guidance for Preparation of a Preliminary Endangerment Assessment Report, State of California Department of Health Services, June 22, 1990).

(9) = Petroleum Hydrocarbon Guidelines, in mg/kg (California Regional Water Quality Control Board, Lahontan Region, January 1987).



LEGEND

- 1OTW ● Douglas Aircraft vadose-zone wells removed during excavation of Tanks 9T and 10T
- DAC-10 ■ EMCON soil sample location
- 9T ■ Former underground storage tank
- Approximate limits of excavation

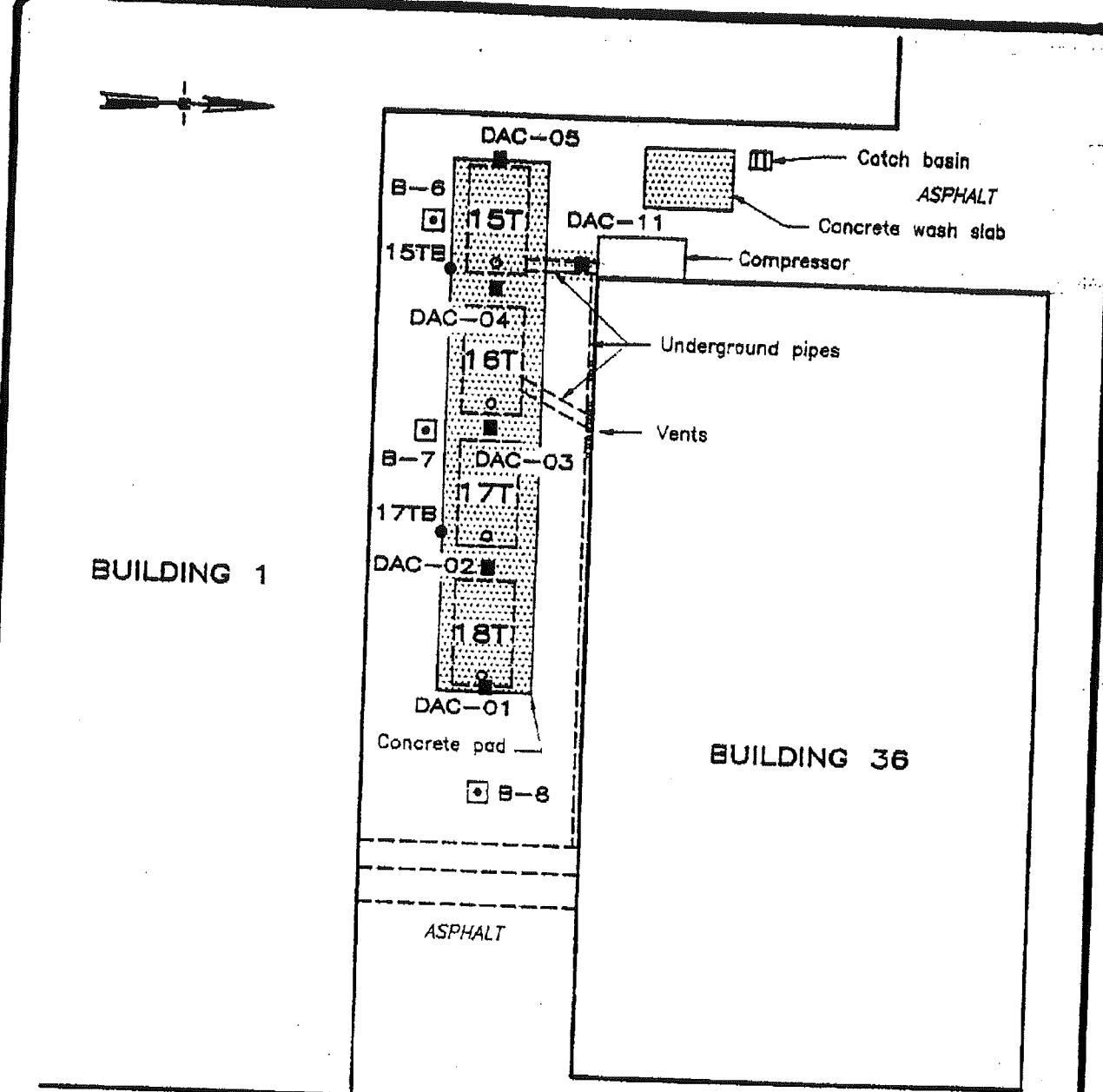


**EMCON**  
Southwest

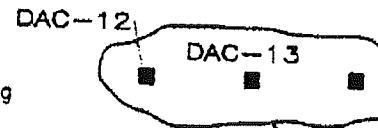
DOUGLAS AIRCRAFT COMPANY  
TORRANCE FACILITY (C6)  
19503 S. NORMANDIE AVENUE  
TORRANCE, CALIFORNIA

LOCATION OF TANKS 9T AND 10T

FIGURE  
**2**  
PROJECT NO.  
C34-08.01

LEGEND

- 15TB ● Douglas Aircraft soil boring
- B-7 ☐ Douglas Aircraft vadose-zone well
- DAC-5 ■ EMCON soil sample location
- [15T]** Former underground storage tank
- ██████ Approximate limits of excavation



0 10 20 FEET

SCALE



**EMCON**

*Southwest*

DOUGLAS AIRCRAFT COMPANY  
TORRANCE FACILITY (C6)  
19503 S. NORMANDIE AVENUE  
TORRANCE, CALIFORNIA

LOCATION OF TANKS 15T THROUGH 18T

FIGURE

**3**

PROJECT NO.  
C34-08.01

CADD FILE: C340801.dwg on Recycled Paper  
DATE LAST REVISED: 3-13-92

Appendix D

**APPENDIX D**  
**BORING LOGS**



## **TEST BORING REPORT**

---

**BORING NO.**

DP-9T-1

Page 1 of 1

<b>PROJECT</b>	Boeing Realty Corporation Former C-6 Facility						<b>H&amp;A FILE NO.</b>	27285-013								
<b>LOCATION</b>	Los Angeles, CA						<b>PROJECT MGR.</b>	Scott Zachary								
<b>CLIENT</b>	Boeing Realty Corporation						<b>FIELD REP.</b>	T. Hammond								
<b>CONTRACTOR</b>	Kehoe Testing & Engineering						<b>DATE STARTED</b>	12/20/2001								
<b>DRILLER</b>	Dan Clyde						<b>DATE FINISHED</b>	12/20/2001								
Elevation			Datum	Boring Location		Parcel A - Parking Lot South of AutoNation Building										
Item	Casing	Sampler	Core Barrel	Rig Make & Model	Geoprobe 40	Hammer Type	Drilling Mud	Casing Advance								
Type	None	Direct-push	0	<input checked="" type="checkbox"/> Truck <input type="checkbox"/> Tripod	<input type="checkbox"/> Cat-Head	<input checked="" type="checkbox"/> Safety	<input type="checkbox"/> Bentonite	<b>Type Method Depth</b>								
Inside Diameter (in.)	--		1	<input type="checkbox"/> ATV <input checked="" type="checkbox"/> Geoprobe	<input type="checkbox"/> Winch	<input type="checkbox"/> Doughnut										
Hammer Weight (lb.)	--	--		<input type="checkbox"/> Track <input type="checkbox"/> Air Track	<input type="checkbox"/> Roller Bit	<input type="checkbox"/> Polymer										
Hammer Fall (in.)	--	--		<input type="checkbox"/> Skid <input checked="" type="checkbox"/> Cutting Head		<input type="checkbox"/> None										
Drilling Notes: Hand-Augered to 5 feet bgs																
Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)				Gravel	Sand	Field Test			
0					1.0		4" Asphalt - Cored 12" Diameter Opening 8" Structural fill base				% Coarse	% Fine	% Coarse	% Medium	% Fine	Dilatancy
						CL	Stiff, brown, silty CLAY with gravel and sand, moist, no odor									Toughness
					4.0											Plasticity
5	NA	DP-9T-1-5 (6")	5'		6.0	ML	Soft, yellow-brown to brown clayey SILT, moist, no odor									
10	NA	DP-9T-1-10 (6")	10'			CL	Stiff, brown silty CLAY, moist, no odor									
15	NA	DP-9T-1-15 (6")	15'													
20	NA	DP-9T-1-20 (6")	20'				Bottom of boring at 20 feet bgs. Borehole backfilled with hydrated #8 bentonite crumbs.									
							Soil samples were collected and identified at 5' intervals, stratum changes are approximate.									
Water Level Data						Sample ID	Well Diagram	Summary								
Date	Time	Elapsed Time (hr.)	Depth In feet to:			O Open End Rod	Riser Pipe	Overburden (Linear ft.)	Number of Samples							
			Bottom of Casing	Bottom of Hole	Water						T Thin Wall Tube	Screen	Rock Cored (Linear ft.)			
					None	Undisturbed Sample	Cuttings									
						Split Spoon Sample	Grout	4								
						G Geoprobe	Concrete									
							Bentonite Seal									
Field Tests			Dilatancy: R - Rapid S - Slow N - None	Plasticity: N - Nonplastic L - Low M - Medium H - High			BORING NO.	DP-9T-1								
Toughness: L - Low M - Medium H - High			Dry Strength: N - None L - Low M - Medium H - High V - Very High													
*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.																
NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.																

## TEST BORING REPORT

BORING NO.

DP-9T-2

Page 1 of 1

PROJECT	Boeing Realty Corporation Former C-6 Facility				H&A FILE NO.	27285-013
LOCATION	Los Angeles, CA				PROJECT MGR.	Scott Zachary
CLIENT	Boeing Realty Corporation				FIELD REP.	T. Hammond
CONTRACTOR	Kehoe Testing & Engineering				DATE STARTED	12/20/2001
DRILLER	Dan Clyde				DATE FINISHED	12/20/2001

Elevation	f.	Datum	Boring Location	Parcel A - Parking Lot South of AutoNation Building	Geoprobe 40	Hammer Type	Drilling Mud	Casing Advance
Item	Casing	Sampler	Core Barrel	Rig Make & Model	Geoprobe 40	Hammer Type	Drilling Mud	Casing Advance
Type	None	Direct-push	0	<input checked="" type="checkbox"/> Truck <input type="checkbox"/> Tripod <input type="checkbox"/> Cat-Head <input checked="" type="checkbox"/> Safety <input type="checkbox"/> Bentonite				
Inside Diameter (in.)	--		1	<input type="checkbox"/> ATV <input checked="" type="checkbox"/> Geoprobe <input type="checkbox"/> Winch <input type="checkbox"/> Doughnut <input type="checkbox"/> Polymer				Type Method Depth
Hammer Weight (lb.)	--	--		<input type="checkbox"/> Track <input type="checkbox"/> Air Track <input type="checkbox"/> Roller Bit <input type="checkbox"/> Automatic <input type="checkbox"/> None				
Hammer Fall (in.)	--	--		<input type="checkbox"/> Skid <input type="checkbox"/> Cutting Head				
					Drilling Notes: Hand-Augered to 5 feet bgs			

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)						Field Test
							% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	
0					1.0								
						CL	4" Asphalt - Cored 12" Diameter Opening 8" Structural fill base  Stiff, brown, silty sandy CLAY with gravel, moist, no odor						
					4.0								
5	NA	DP-9T-2-5 (6")	5'		6.0	ML	Soft, yellow-brown, clayey SILT, moist, no odor						
10	NA	DP-9T-2-10 (6")	10'			CL	Stiff, brown, silty CLAY, moist, no odor						
15	NA	DP-9T-2-15 (6")	15'										
20	NA	DP-9T-2-20 (6")	20'				Bottom of boring at 20 feet bgs. Borehole backfilled with hydrated #8 bentonite crumbles.						
							Soil samples were collected and identified at 5' intervals, stratum changes are approximate.						

Water Level Data						Sample ID	Well Diagram	Summary					
Date	Time	Elapsed Time (hr.)	Depth in feet to:			O Open End Rod	Riser Pipe	Overburden (Linear ft.)					
			Bottom of Casing	Bottom of Hole	Water				T Thin Wall Tube	Screen	Rock Cored (Linear ft.)		
					None	U Undisturbed Sample	Filter Sand	Number of Samples	S Split Spoon Sample	Cuttings	4		
						G Geoprobe	Grout		A Concrete	Bentonite Seal	BORING NO.	DP-9T-2	
Field Tests	Dilatancy:	R - Rapid S - Slow N - None	Plasticity:	N - Nonplastic	L - Low M - Medium H - High								
	Toughness:	L - Low M - Medium H - High	Dry Strength:	N - None	L - Low M - Medium H - High V - Very High								

\*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Haley &amp; Aldrich, Inc.



## **TEST BORING REPORT**

**BORING NO.**

DP-9T-3

Page 1 of 1

<b>PROJECT</b>	Boeing Realty Corporation Former C-6 Facility	<b>Page</b>	1	of	1
<b>LOCATION</b>	Los Angeles, CA	<b>H&amp;A FILE NO.</b>	27285-013		
<b>CLIENT</b>	Boeing Realty Corporation	<b>PROJECT MGR.</b>	Scott Zachary		
<b>CONTRACTOR</b>	Kehoe Testing & Engineering	<b>FIELD REP.</b>	T. Hammond		
<b>DRILLER</b>	Dan Clyde	<b>DATE STARTED</b>	12/20/2001		
		<b>DATE FINISHED</b>	12/20/2001		

**Water Level Data**      **Sample ID**      **Well Diagram**      **Summary**

**Field Tests** Dilatancy: R - Rapid S - Slow N - None  
 Toughness: L - Low M - Medium H - High

Bentonite Seal      Plasticity: N - Nonplastic L - Low M - Medium H - High  
Dry Strength: N - None L - Low M - Medium H - High M - Much

**\*NOTE: Maximum Particle Size is determined by the following:**

\*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

K:\template\forms\uscostb\_field\_log.xls



**APPENDIX E**  
**LABORATORY REPORT**

**S E V E R N  
T R E N T  
S E R V I C E S**

**STL Los Angeles**  
1721 South Grand Avenue  
Santa Ana, CA 92705-4808

December 27, 2001

STL LOT NUMBER: E1L200353  
NELAP Certification Number: 01118CA  
PO/CONTRACT: 05160-SEV002-S56

Tel: 714 258 8610  
Fax: 714 258 0921  
[www.stl-inc.com](http://www.stl-inc.com)

Scott Zachary  
Haley & Aldrich Inc  
9040 Friars Road  
Suite 220  
San Diego, CA 92108

Dear Mr. Zachary,

This report contains the analytical results for the 12 samples received under chain of custody by STL Los Angeles on December 20, 2001. These samples are associated with your BRC former C-6 Torrance Harbor Gateway project.

All applicable quality control procedures met method-specified acceptance criteria. See Project Receipt Checklist for container temperature and conditions. Temperature reading between 2 to 6 degrees Celsius is considered within acceptable criteria. Any matrix related anomaly is footnoted within the report.

STL Los Angeles certifies that the tests performed at our facility meet all NELAP requirements for parameters for which accreditation is required or available. The case narrative is an integral part of the report. This report shall not be reproduced except in full, without the written approval of the laboratory.

If you have any questions, please feel free to call me at (714) 258-8610 extension 309.

Sincerely,



Diane Suzuki  
Project Manager

CC: Project File

000078  
Page 1 of \_\_\_\_\_ total pages in this report.

**000001**

STL Los Angeles is a part of Severn Trent Laboratories, Inc.



**Chain of  
Custody Record**

SEVERN  
TRENT  
SERVICES

Severn Trent Laboratories, Inc.

STL-4124 (0700)

Q:42295

Client <b>HALEY &amp; ALDRICH</b>			Project Manager <b>SCOTT ZACHARY</b>			Date <b>12/20/01</b>			Chain of Custody Number <b>054110</b>											
Address <b>9040 FRIARS ROAD, SUITE 220</b>			Telephone Number (Area Code)/Fax Number <b>619-280-9210</b>			Lab Number <b>EIL200353</b>			Page <b>1</b> of <b>1</b>											
City <b>SAN DIEGO</b>	State <b>CA</b>	Zip Code <b>92108</b>	Site Contact <b>TRAVIS HAMMOND</b>	Lab Contact <b>D. SUZUKI</b>	Analysis (Attach list if more space is needed)															
Project Name and Location (State) <b>C6 - TORRANCE, CA</b>			Carrier/Waybill Number																	
Contract/Purchase Order/Quote No.			Matrix			Containers & Preservatives														
Sample I.D. No. and Description (Containers for each sample may be combined on one line)			Date	Time	AP Aqueous	SDS	SP	UPRES.	H2SO4	HNO3	HCl	NH4OH	ZnAc2/H2O	NaBor	Metals 6010	VOCs 8260B + TICs pending	P4	Hold For : <b>C.III 7199</b>	VOCs 8260S	Special Instructions/ Conditions of Receipt
DP-9T-1-5' - 122001			12/20/01	12:00		X	X								X	X		X	IF TOTAL CHROMIUM	
DP-9T-1-10' - 122001				12:20														> 76 mg/kg, RUN		
DP-9T-1-15' - 122001				12:30														CHROMIUM II BY		
DP-9T-1-20' - 122001				12:40														METHOD 7199		
DP-9T-2-5' - 122001				12:40																
DP-9T-2-10' - 122001				13:00											X					
DP-9T-2-15' - 122001				13:10											X					
DP-9T-2-20' - 122001				13:20													X	HOLD 20' SAMPLE		
DP-9T-3-5' - 122001				13:30														FOR VOC'S PENDING		
DP-9T-3-10' - 122001				13:40														RESULT OF 10', 15'		
DP-9T-3-15' - 122001				13:50																
DP-9T-3-20' - 122001				14:00											↓	↓	↓			
Possible Hazard Identification			Sample Disposal						(A fee may be assessed if samples are retained longer than 3 months)											
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown			<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																	
Turn Around Time Required											QC Requirements (Specify)									
<input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> 14 Days <input type="checkbox"/> 21 Days <input checked="" type="checkbox"/> Other <b>NORMAL</b>																				
1. Relinquished By 			Date <b>12/20/01</b>	Time <b>17:45</b>	1. Received By 			Date <b>12/20/01</b> Time <b>1745</b>												
2. Relinquished By			Date	Time	2. Received By															
3. Relinquished By			Date	Time	3. Received By															

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy



SEVERN  
TRENT  
SERVICES

# Analytical Report

**000004**

## EXECUTIVE SUMMARY - Detection Highlights

E1L200353

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>DP_9T_1_5_122001 12/20/01 12:00 001</b>				
Mercury	0.062 B	0.10	mg/kg	SW846 7471A
Aluminum	24600	20.0	mg/kg	SW846 6010B
Arsenic	6.2	1.0	mg/kg	SW846 6010B
Barium	134	2.0	mg/kg	SW846 6010B
Cadmium	0.30 B	0.50	mg/kg	SW846 6010B
Chromium	30.1 J	1.0	mg/kg	SW846 6010B
Beryllium	0.93	0.50	mg/kg	SW846 6010B
Lead	6.9	0.50	mg/kg	SW846 6010B
Cobalt	11.9	5.0	mg/kg	SW846 6010B
Copper	19.1	2.5	mg/kg	SW846 6010B
Molybdenum	0.31 B	4.0	mg/kg	SW846 6010B
Nickel	16.0	4.0	mg/kg	SW846 6010B
Vanadium	56.9	5.0	mg/kg	SW846 6010B
Zinc	64.6	2.0	mg/kg	SW846 6010B
pH (solid)	7.2	0.10	No Units	SW846 9045C
<b>DP_9T_1_10_122001 12/20/01 12:20 002</b>				
Mercury	0.054 B	0.10	mg/kg	SW846 7471A
Aluminum	28100	20.0	mg/kg	SW846 6010B
Arsenic	5.9	1.0	mg/kg	SW846 6010B
Barium	137	2.0	mg/kg	SW846 6010B
Cadmium	0.88	0.50	mg/kg	SW846 6010B
Chromium	37.5 J	1.0	mg/kg	SW846 6010B
Beryllium	1.1	0.50	mg/kg	SW846 6010B
Lead	7.6	0.50	mg/kg	SW846 6010B
Cobalt	14.4	5.0	mg/kg	SW846 6010B
Copper	37.9	2.5	mg/kg	SW846 6010B
Molybdenum	0.72 B	4.0	mg/kg	SW846 6010B
Nickel	26.3	4.0	mg/kg	SW846 6010B
Thallium	1.4	1.0	mg/kg	SW846 6010B
Vanadium	78.8	5.0	mg/kg	SW846 6010B
Zinc	83.3	2.0	mg/kg	SW846 6010B
pH (solid)	8.4	0.10	No Units	SW846 9045C
<b>DP_9T_1_15_122001 12/20/01 12:30 003</b>				
Mercury	0.039 B	0.10	mg/kg	SW846 7471A
Aluminum	20100	20.0	mg/kg	SW846 6010B
Arsenic	4.6	1.0	mg/kg	SW846 6010B
Barium	1470	4.0	mg/kg	SW846 6010B
Cadmium	0.62	0.50	mg/kg	SW846 6010B
Chromium	28.0 J	1.0	mg/kg	SW846 6010B

(Continued on next page)

**000005**

## EXECUTIVE SUMMARY - Detection Highlights

E1L200353

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>DP_9T_1_15_122001 12/20/01 12:30 003</b>				
Beryllium	0.85	0.50	mg/kg	SW846 6010B
Lead	5.5	0.50	mg/kg	SW846 6010B
Cobalt	11.5	5.0	mg/kg	SW846 6010B
Copper	27.9	2.5	mg/kg	SW846 6010B
Nickel	19.3	4.0	mg/kg	SW846 6010B
Vanadium	61.9	5.0	mg/kg	SW846 6010B
Zinc	69.4	2.0	mg/kg	SW846 6010B
pH (solid)	8.5	0.10	No Units	SW846 9045C
<b>DP_9T_1_20_122001 12/20/01 12:40 004</b>				
Mercury	0.036 B	0.10	mg/kg	SW846 7471A
Aluminum	25100	20.0	mg/kg	SW846 6010B
Arsenic	4.5	1.0	mg/kg	SW846 6010B
Barium	184	2.0	mg/kg	SW846 6010B
Cadmium	1.0	0.50	mg/kg	SW846 6010B
Chromium	32.5 J	1.0	mg/kg	SW846 6010B
Beryllium	1.0	0.50	mg/kg	SW846 6010B
Lead	6.7	0.50	mg/kg	SW846 6010B
Cobalt	13.1	5.0	mg/kg	SW846 6010B
Copper	38.2	2.5	mg/kg	SW846 6010B
Molybdenum	0.44 B	4.0	mg/kg	SW846 6010B
Nickel	20.6	4.0	mg/kg	SW846 6010B
Vanadium	68.8	5.0	mg/kg	SW846 6010B
Zinc	92.3	2.0	mg/kg	SW846 6010B
pH (solid)	8.2	0.10	No Units	SW846 9045C
<b>DP_9T_2_5_122001 12/20/01 12:40 005</b>				
Mercury	0.041 B	0.10	mg/kg	SW846 7471A
Aluminum	24900	20.0	mg/kg	SW846 6010B
Arsenic	3.6	1.0	mg/kg	SW846 6010B
Barium	121	2.0	mg/kg	SW846 6010B
Chromium	27.5 J	1.0	mg/kg	SW846 6010B
Beryllium	0.78	0.50	mg/kg	SW846 6010B
Lead	5.9	0.50	mg/kg	SW846 6010B
Cobalt	11.5	5.0	mg/kg	SW846 6010B
Copper	18.8	2.5	mg/kg	SW846 6010B
Molybdenum	0.36 B	4.0	mg/kg	SW846 6010B
Nickel	17.0	4.0	mg/kg	SW846 6010B
Thallium	1.1	1.0	mg/kg	SW846 6010B
Vanadium	57.5	5.0	mg/kg	SW846 6010B
Zinc	60.1	2.0	mg/kg	SW846 6010B

(Continued on next page)

**000006**

## EXECUTIVE SUMMARY - Detection Highlights

E1L200353

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
DP_9T_2_5_122001 12/20/01 12:40 005				
pH (solid)	8.0	0.10	No Units	SW846 9045C
DP_9T_2_10_122001 12/20/01 13:00 006				
Mercury	0.036 B	0.10	mg/kg	SW846 7471A
Aluminum	26100	20.0	mg/kg	SW846 6010B
Arsenic	4.0	1.0	mg/kg	SW846 6010B
Barium	126	2.0	mg/kg	SW846 6010B
Chromium	31.7 J	1.0	mg/kg	SW846 6010B
Beryllium	0.84	0.50	mg/kg	SW846 6010B
Lead	6.5	0.50	mg/kg	SW846 6010B
Cobalt	14.1	5.0	mg/kg	SW846 6010B
Copper	29.5	2.5	mg/kg	SW846 6010B
Molybdenum	0.38 B	4.0	mg/kg	SW846 6010B
Nickel	20.8	4.0	mg/kg	SW846 6010B
Thallium	1.3	1.0	mg/kg	SW846 6010B
Vanadium	67.4	5.0	mg/kg	SW846 6010B
Zinc	76.3	2.0	mg/kg	SW846 6010B
pH (solid)	7.7	0.10	No Units	SW846 9045C
DP_9T_2_15_122001 12/20/01 13:10 007				
Mercury	0.044 B	0.10	mg/kg	SW846 7471A
Aluminum	24600	20.0	mg/kg	SW846 6010B
Arsenic	4.1	1.0	mg/kg	SW846 6010B
Barium	130	2.0	mg/kg	SW846 6010B
Chromium	33.3 J	1.0	mg/kg	SW846 6010B
Beryllium	0.77	0.50	mg/kg	SW846 6010B
Lead	6.2	0.50	mg/kg	SW846 6010B
Cobalt	11.4	5.0	mg/kg	SW846 6010B
Copper	44.8	2.5	mg/kg	SW846 6010B
Molybdenum	0.49 B	4.0	mg/kg	SW846 6010B
Nickel	20.7	4.0	mg/kg	SW846 6010B
Vanadium	62.9	5.0	mg/kg	SW846 6010B
Zinc	77.5	2.0	mg/kg	SW846 6010B
pH (solid)	8.1	0.10	No Units	SW846 9045C
DP_9T_2_20_122001 12/20/01 13:20 008				
Mercury	0.040 B	0.10	mg/kg	SW846 7471A
Aluminum	30600	20.0	mg/kg	SW846 6010B
Arsenic	5.2	1.0	mg/kg	SW846 6010B
Barium	221	2.0	mg/kg	SW846 6010B

(Continued on next page)

**000007**

## EXECUTIVE SUMMARY - Detection Highlights

E1L200353

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>DP_9T_2_20_122001 12/20/01 13:20 008</b>				
Cadmium	0.60	0.50	mg/kg	SW846 6010B
Chromium	37.5 J	1.0	mg/kg	SW846 6010B
Beryllium	1.1	0.50	mg/kg	SW846 6010B
Lead	10.2	0.50	mg/kg	SW846 6010B
Cobalt	15.9	5.0	mg/kg	SW846 6010B
Copper	46.8	2.5	mg/kg	SW846 6010B
Molybdenum	0.44 B	4.0	mg/kg	SW846 6010B
Nickel	26.7	4.0	mg/kg	SW846 6010B
Thallium	1.2	1.0	mg/kg	SW846 6010B
Vanadium	79.7	5.0	mg/kg	SW846 6010B
Zinc	109	2.0	mg/kg	SW846 6010B
pH (solid)	7.9	0.10	No Units	SW846 9045C
<b>DP_9T_3_5_122001 12/20/01 13:30 009</b>				
Mercury	0.038 B	0.10	mg/kg	SW846 7471A
Aluminum	7450	20.0	mg/kg	SW846 6010B
Arsenic	3.7	1.0	mg/kg	SW846 6010B
Barium	63.9	2.0	mg/kg	SW846 6010B
Chromium	9.8 J	1.0	mg/kg	SW846 6010B
Beryllium	0.36 B	0.50	mg/kg	SW846 6010B
Lead	4.2	0.50	mg/kg	SW846 6010B
Cobalt	4.8 B	5.0	mg/kg	SW846 6010B
Copper	13.9	2.5	mg/kg	SW846 6010B
Nickel	7.7	4.0	mg/kg	SW846 6010B
Vanadium	23.8	5.0	mg/kg	SW846 6010B
Zinc	31.2	2.0	mg/kg	SW846 6010B
pH (solid)	8.3	0.10	No Units	SW846 9045C
<b>DP_9T_3_10_122001 12/20/01 13:40 010</b>				
Mercury	0.047 B	0.10	mg/kg	SW846 7471A
Aluminum	29800	20.0	mg/kg	SW846 6010B
Arsenic	5.4	1.0	mg/kg	SW846 6010B
Barium	162	2.0	mg/kg	SW846 6010B
Cadmium	0.47 B	0.50	mg/kg	SW846 6010B
Chromium	41.0 J	1.0	mg/kg	SW846 6010B
Beryllium	1.0	0.50	mg/kg	SW846 6010B
Lead	8.0	0.50	mg/kg	SW846 6010B
Cobalt	14.8	5.0	mg/kg	SW846 6010B
Copper	43.8	2.5	mg/kg	SW846 6010B
Molybdenum	0.56 B	4.0	mg/kg	SW846 6010B
Nickel	28.2	4.0	mg/kg	SW846 6010B

(Continued on next page)

**000008**

## EXECUTIVE SUMMARY - Detection Highlights

E1L200353

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>DP_9T_3_10_122001 12/20/01 13:40 010</b>				
Thallium	0.89 B	1.0	mg/kg	SW846 6010B
Vanadium	80.6	5.0	mg/kg	SW846 6010B
Zinc	91.6	2.0	mg/kg	SW846 6010B
pH (solid)	8.5	0.10	No Units	SW846 9045C
<b>DP_9T_3_15_122001 12/20/01 13:50 011</b>				
Mercury	0.037 B	0.10	mg/kg	SW846 7471A
Aluminum	19900	20.0	mg/kg	SW846 6010B
Arsenic	4.2	1.0	mg/kg	SW846 6010B
Barium	124	2.0	mg/kg	SW846 6010B
Chromium	28.3 J	1.0	mg/kg	SW846 6010B
Beryllium	0.72	0.50	mg/kg	SW846 6010B
Lead	5.2	0.50	mg/kg	SW846 6010B
Cobalt	10.6	5.0	mg/kg	SW846 6010B
Copper	32.5	2.5	mg/kg	SW846 6010B
Molybdenum	0.78 B	4.0	mg/kg	SW846 6010B
Nickel	20.3	4.0	mg/kg	SW846 6010B
Vanadium	58.0	5.0	mg/kg	SW846 6010B
Zinc	63.8	2.0	mg/kg	SW846 6010B
pH (solid)	7.7	0.10	No Units	SW846 9045C
<b>DP_9T_3_20_122001 12/20/01 14:00 012</b>				
Mercury	0.067 B	0.10	mg/kg	SW846 7471A
Aluminum	17400	20.0	mg/kg	SW846 6010B
Arsenic	3.0	1.0	mg/kg	SW846 6010B
Barium	93.1	2.0	mg/kg	SW846 6010B
Cadmium	0.12 B	0.50	mg/kg	SW846 6010B
Chromium	21.3 J	1.0	mg/kg	SW846 6010B
Beryllium	0.71	0.50	mg/kg	SW846 6010B
Lead	4.3	0.50	mg/kg	SW846 6010B
Cobalt	7.6	5.0	mg/kg	SW846 6010B
Copper	23.6	2.5	mg/kg	SW846 6010B
Nickel	14.3	4.0	mg/kg	SW846 6010B
Vanadium	46.3	5.0	mg/kg	SW846 6010B
Zinc	59.0	2.0	mg/kg	SW846 6010B
pH (solid)	7.8	0.10	No Units	SW846 9045C

**000009**

## METHODS SUMMARY

ELL200353

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3050B
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A	SW846 7471A
Soil and Waste pH	SW846 9045C	
Volatile Organics by GC/MS	SW846 8260B	SW846 5030

### References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

000010

## SAMPLE SUMMARY

E1L200353

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
EQWLH	001	DP_9T_1_5_122001	12/20/01	12:00
EQWLW	002	DP_9T_1_10_122001	12/20/01	12:20
EQWLX	003	DP_9T_1_15_122001	12/20/01	12:30
EQWL0	004	DP_9T_1_20_122001	12/20/01	12:40
EQWL2	005	DP_9T_2_5_122001	12/20/01	12:40
EQWL4	006	DP_9T_2_10_122001	12/20/01	13:00
EQWL6	007	DP_9T_2_15_122001	12/20/01	13:10
EQWL7	008	DP_9T_2_20_122001	12/20/01	13:20
EQWL8	009	DP_9T_3_5_122001	12/20/01	13:30
EQWL9	010	DP_9T_3_10_122001	12/20/01	13:40
EQWMA	011	DP_9T_3_15_122001	12/20/01	13:50
EQWMC	012	DP_9T_3_20_122001	12/20/01	14:00

**NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

000011

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_2\_10\_122001

## GC/MS Volatiles

Lot-Sample #....: E1L200353-006 Work Order #....: EQWL41AA Matrix.....: SOLID  
 Date Sampled....: 12/20/01 13:00 Date Received...: 12/20/01 17:45 MS Run #.....: 1360133  
 Prep Date.....: 12/21/01 Analysis Date...: 12/21/01  
 Prep Batch #....: 1360257 Analysis Time...: 19:18  
 Dilution Factor: 1  
 Analyst ID.....: 999998 Instrument ID...: MSD  
 Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Dichlorodifluoromethane	ND	10	ug/kg	1.0
Chloromethane	ND	10	ug/kg	3.0
Vinyl chloride	ND	10	ug/kg	2.0
Bromomethane	ND	10	ug/kg	8.0
1,2-Dibromoethane	ND	5.0	ug/kg	3.0
Chloroethane	ND	10	ug/kg	2.0
Trichlorofluoromethane	ND	10	ug/kg	2.0
Acrolein	ND	100	ug/kg	30
1,1-Dichloroethene	ND	5.0	ug/kg	2.0
Iodomethane	ND	10	ug/kg	10
Acetone	ND	25	ug/kg	15
Carbon disulfide	ND	5.0	ug/kg	3.0
Methylene chloride	ND	5.0	ug/kg	3.0
trans-1,2-Dichloroethene	ND	5.0	ug/kg	2.0
Acrylonitrile	ND	100	ug/kg	30
Methyl tert-butyl ether	ND	5.0	ug/kg	1.0
1,1-Dichloroethane	ND	5.0	ug/kg	1.0
Vinyl acetate	ND	10	ug/kg	5.0
2,2-Dichloropropane	ND	5.0	ug/kg	2.0
cis-1,2-Dichloroethene	ND	5.0	ug/kg	2.0
2-Butanone	ND	25	ug/kg	15
Bromochloromethane	ND	5.0	ug/kg	1.0
Chloroform	ND	5.0	ug/kg	1.0
Tetrahydrofuran	ND	20	ug/kg	2.0
1,1,1-Trichloroethane	ND	5.0	ug/kg	1.0
1,1-Dichloropropene	ND	5.0	ug/kg	1.0
Carbon tetrachloride	ND	5.0	ug/kg	1.0
Benzene	ND	5.0	ug/kg	2.0
1,2-Dichloroethane	ND	5.0	ug/kg	1.0
Trichloroethene	ND	5.0	ug/kg	2.0
1,2-Dichloropropane	ND	5.0	ug/kg	1.0
Bromodichloromethane	ND	5.0	ug/kg	1.0
2-Chloroethyl vinyl ether	ND	10	ug/kg	5.0
cis-1,3-Dichloropropene	ND	5.0	ug/kg	1.0
4-Methyl-2-pentanone	ND	25	ug/kg	10
Toluene	ND	5.0	ug/kg	2.0
trans-1,3-Dichloropropene	ND	5.0	ug/kg	3.0

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000012

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_2\_10\_122001

## GC/MS Volatiles

Lot-Sample #....: E1L200353-006 Work Order #....: EQWL41AA Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2-Trichloroethane	ND	5.0	ug/kg	3.0
Tetrachloroethene	ND	5.0	ug/kg	2.0
2-Hexanone	ND	25	ug/kg	10
Dibromochloromethane	ND	5.0	ug/kg	1.0
Chlorobenzene	ND	5.0	ug/kg	2.0
Ethylbenzene	ND	5.0	ug/kg	2.0
Xylenes (total)	ND	5.0	ug/kg	3.0
Styrene	ND	10	ug/kg	2.0
Bromoform	ND	5.0	ug/kg	3.0
Isopropylbenzene	ND	5.0	ug/kg	2.0
p-Isopropyltoluene	ND	5.0	ug/kg	2.0
Bromobenzene	ND	5.0	ug/kg	2.0
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg	3.0
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg	3.0
1,2,3-Trichloropropane	ND	5.0	ug/kg	3.0
n-Propylbenzene	ND	5.0	ug/kg	2.0
2-Chlorotoluene	ND	5.0	ug/kg	2.0
4-Chlorotoluene	ND	5.0	ug/kg	2.0
1,3,5-Trimethylbenzene	ND	5.0	ug/kg	2.0
tert-Butylbenzene	ND	5.0	ug/kg	2.0
1,2,4-Trimethylbenzene	ND	5.0	ug/kg	2.0
sec-Butylbenzene	ND	5.0	ug/kg	2.0
1,3-Dichlorobenzene	ND	5.0	ug/kg	2.0
1,4-Dichlorobenzene	ND	5.0	ug/kg	2.0
1,2-Dichlorobenzene	ND	5.0	ug/kg	2.0
n-Butylbenzene	ND	5.0	ug/kg	2.0
1,2-Dibromo-3-chloro-propane	ND	10	ug/kg	3.0
1,2,4-Trichloro-benzene	ND	5.0	ug/kg	2.0
Hexachlorobutadiene	ND	5.0	ug/kg	2.0
1,2,3-Trichlorobenzene	ND	5.0	ug/kg	2.0
t-Butanol	ND	100	ug/kg	50
Isopropyl ether	ND	10	ug/kg	1.0
Tert-amyl methyl ether	ND	10	ug/kg	2.0
Tert-butyl ethyl ether	ND	10	ug/kg	1.0
<u>SURROGATE</u>		<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
Bromofluorobenzene	78	(65 - 135)		
1,2-Dichloroethane-d4	92	(60 - 140)		
Toluene-d8	84	(70 - 130)		

000013

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_2\_15\_122001

## GC/MS Volatiles

Lot-Sample #....: E1L200353-007 Work Order #....: EQWL61AA Matrix.....: SOLID  
 Date Sampled....: 12/20/01 13:10 Date Received...: 12/20/01 17:45 MS Run #.....: 1360133  
 Prep Date.....: 12/21/01 Analysis Date...: 12/21/01  
 Prep Batch #....: 1360257 Analysis Time...: 19:48  
 Dilution Factor: 1  
 Analyst ID.....: 999998 Instrument ID...: MSD  
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Dichlorodifluoromethane	ND	10	ug/kg	1.0
Chloromethane	ND	10	ug/kg	3.0
Vinyl chloride	ND	10	ug/kg	2.0
Bromomethane	ND	10	ug/kg	8.0
1,2-Dibromoethane	ND	5.0	ug/kg	3.0
Chloroethane	ND	10	ug/kg	2.0
Trichlorofluoromethane	ND	10	ug/kg	2.0
Acrolein	ND	100	ug/kg	30
1,1-Dichloroethene	ND	5.0	ug/kg	2.0
Iodomethane	ND	10	ug/kg	10
Acetone	ND	25	ug/kg	15
Carbon disulfide	ND	5.0	ug/kg	3.0
Methylene chloride	ND	5.0	ug/kg	3.0
trans-1,2-Dichloroethene	ND	5.0	ug/kg	2.0
Acrylonitrile	ND	100	ug/kg	30
Methyl tert-butyl ether	ND	5.0	ug/kg	1.0
1,1-Dichloroethane	ND	5.0	ug/kg	1.0
Vinyl acetate	ND	10	ug/kg	5.0
2,2-Dichloropropane	ND	5.0	ug/kg	2.0
cis-1,2-Dichloroethene	ND	5.0	ug/kg	2.0
2-Butanone	ND	25	ug/kg	15
Bromochloromethane	ND	5.0	ug/kg	1.0
Chloroform	ND	5.0	ug/kg	1.0
Tetrahydrofuran	ND	20	ug/kg	2.0
1,1,1-Trichloroethane	ND	5.0	ug/kg	1.0
1,1-Dichloropropene	ND	5.0	ug/kg	1.0
Carbon tetrachloride	ND	5.0	ug/kg	1.0
Benzene	ND	5.0	ug/kg	2.0
1,2-Dichloroethane	ND	5.0	ug/kg	1.0
Trichloroethene	ND	5.0	ug/kg	2.0
1,2-Dichloropropane	ND	5.0	ug/kg	1.0
Bromodichloromethane	ND	5.0	ug/kg	1.0
2-Chloroethyl vinyl ether	ND	10	ug/kg	5.0
cis-1,3-Dichloropropene	ND	5.0	ug/kg	1.0
4-Methyl-2-pentanone	ND	25	ug/kg	10
Toluene	ND	5.0	ug/kg	2.0
trans-1,3-Dichloropropene	ND	5.0	ug/kg	3.0

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000014

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_2\_15\_122001

## GC/MS Volatiles

Lot-Sample #...: E1L200353-007 Work Order #...: EQWL61AA Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2-Trichloroethane	ND	5.0	ug/kg	3.0
Tetrachloroethene	ND	5.0	ug/kg	2.0
2-Hexanone	ND	25	ug/kg	10
Dibromochloromethane	ND	5.0	ug/kg	1.0
Chlorobenzene	ND	5.0	ug/kg	2.0
Ethylbenzene	ND	5.0	ug/kg	2.0
Xylenes (total)	ND	5.0	ug/kg	3.0
Styrene	ND	10	ug/kg	2.0
Bromoform	ND	5.0	ug/kg	3.0
Isopropylbenzene	ND	5.0	ug/kg	2.0
p-Isopropyltoluene	ND	5.0	ug/kg	2.0
Bromobenzene	ND	5.0	ug/kg	2.0
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg	3.0
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg	3.0
1,2,3-Trichloropropane	ND	5.0	ug/kg	3.0
n-Propylbenzene	ND	5.0	ug/kg	2.0
2-Chlorotoluene	ND	5.0	ug/kg	2.0
4-Chlorotoluene	ND	5.0	ug/kg	2.0
1,3,5-Trimethylbenzene	ND	5.0	ug/kg	2.0
tert-Butylbenzene	ND	5.0	ug/kg	2.0
1,2,4-Trimethylbenzene	ND	5.0	ug/kg	2.0
sec-Butylbenzene	ND	5.0	ug/kg	2.0
1,3-Dichlorobenzene	ND	5.0	ug/kg	2.0
1,4-Dichlorobenzene	ND	5.0	ug/kg	2.0
1,2-Dichlorobenzene	ND	5.0	ug/kg	2.0
n-Butylbenzene	ND	5.0	ug/kg	2.0
1,2-Dibromo-3-chloro- propane	ND	10	ug/kg	3.0
1,2,4-Trichloro- benzene	ND	5.0	ug/kg	2.0
Hexachlorobutadiene	ND	5.0	ug/kg	2.0
1,2,3-Trichlorobenzene	ND	5.0	ug/kg	2.0
t-Butanol	ND	100	ug/kg	50
Isopropyl ether	ND	10	ug/kg	1.0
Tert-amyl methyl ether	ND	10	ug/kg	2.0
Tert-butyl ethyl ether	ND	10	ug/kg	1.0

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Bromofluorobenzene	75	(65 - 135)
1,2-Dichloroethane-d4	89	(60 - 140)
Toluene-d8	85	(70 - 130)

000015

HALEY & ALDRICH INC

DP\_9T\_2\_10\_122001

GC/MS Volatiles

Lot-Sample #: E1L200353-006

Work Order #: EQWL41AA

Matrix: SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
None				ug/kg

000016

HALEY & ALDRICH INC

DP\_9T\_2\_15\_122001

GC/MS Volatiles

Lot-Sample #: E1L200353-007

Work Order #: EQWL61AA

Matrix: SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
None				ug/kg

000017

HALEY & ALDRICH INC

Method Blank Report

GC/MS Volatiles

Lot-Sample #: E1L260000-257 B Work Order #: EQ2MA1AA Matrix: SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
None				ug/kg

000018

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_1\_5\_122001

## General Chemistry

Lot-Sample #....: E1L200353-001    Work Order #....: EQWLH    Matrix.....: SOLID  
Date Sampled....: 12/20/01 12:00    Date Received...: 12/20/01 17:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- PREP	
					ANALYSIS DATE	BATCH #
pH (solid)	7.2	0.10	No Units	SW846 9045C	12/21/01	1355223
		Dilution Factor: 1		Analysis Time...: 10:08	Analyst ID.....: 000022	
		Instrument ID...: W07		MS Run #.....: 1355106	MDL.....:	

000019

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_1\_10\_122001

## General Chemistry

Lot-Sample #....: E1L200353-002 Work Order #....: EQWLW Matrix.....: SOLID  
Date Sampled....: 12/20/01 12:20 Date Received...: 12/20/01 17:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-		PREP
					ANALYSIS DATE	BATCH #	
pH (solid)	8.4	0.10	No Units	SW846 9045C	12/21/01	1355223	
		Dilution Factor: 1		Analysis Time...: 10:12		Analyst ID.....: 0000226	
		Instrument ID.: W07		MS Run #:.....: 1355106		MDL.....:	

000020

HALEY & ALDRICH INC

Client Sample ID: DP\_9T\_1\_15\_122001

General Chemistry

Lot-Sample #....: E1L200353-003 Work Order #....: EQWLX Matrix.....: SOLID  
Date Sampled...: 12/20/01 12:30 Date Received...: 12/20/01 17:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-		PREP
					ANALYSIS DATE	BATCH #	
pH (solid)	8.5	0.10	No Units	SW846 9045C	12/21/01	1355223	
		Dilution Factor: 1		Analysis Time...: 10:14		Analyst ID.....: 0000226	
		Instrument ID...: W07		MS Run #.....: 1355106		MDL.....:	

000021

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_1\_20\_122001

## General Chemistry

Lot-Sample #....: E1L200353-004 Work Order #....: EQWL0 Matrix.....: SOLID  
Date Sampled...: 12/20/01 12:40 Date Received...: 12/20/01 17:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-		PREP
					ANALYSIS DATE	BATCH #	
pH (solid)	8.2	0.10	No Units	SW846 9045C	12/21/01	1355223	
	Dilution Factor: 1			Analysis Time..: 10:16			Analyst ID.....: 0000226
	Instrument ID.: W07			MS Run #:.....: 1355106			MDL.....:

000022

HALEY & ALDRICH INC

Client Sample ID: DP\_9T\_2\_5\_122001

General Chemistry

Lot-Sample #....: E1L200353-005 Work Order #....: EQWL2 Matrix.....: SOLID  
Date Sampled...: 12/20/01 12:40 Date Received...: 12/20/01 17:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-		PREP
					ANALYSIS	DATE	
pH (solid)	8.0	0.10	No Units	SW846 9045C	12/21/01		1355223
		Dilution Factor: 1		Analysis Time...: 10:18		Analyst ID.....: 0000226	
		Instrument ID...: W07		MS Run #.....: 1355106		MDL.....:	

000023

HALEY & ALDRICH INC

Client Sample ID: DP\_9T\_2\_10\_122001

General Chemistry

Lot-Sample #....: E1L200353-006 Work Order #....: EQWL4 Matrix.....: SOLID  
Date Sampled...: 12/20/01 13:00 Date Received...: 12/20/01 17:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-		PREP
					ANALYSIS DATE	BATCH #	
pH (solid)	7.7	0.10	No Units	SW846 9045C	12/21/01	1355223	
		Dilution Factor: 1		Analysis Time...: 10:20		Analyst ID.....: 0000226	
		Instrument ID...: W07		MS Run #.....: 1355106		MDL.....:	

000024

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_2\_15\_122001

## General Chemistry

Lot-Sample #....: E1L200353-007 Work Order #....: EQWL6 Matrix.....: SOLID  
Date Sampled....: 12/20/01 13:10 Date Received...: 12/20/01 17:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-	PREP
					ANALYSIS DATE	BATCH #
pH (solid)	8.1	0.10	No Units	SW846 9045C	12/21/01	1355223
		Dilution Factor: 1		Analysis Time...: 10:22	Analyst ID.....: 0000226	
		Instrument ID...: W07		MS Run #.....: 1355106	MDL.....:	

000025

HALEY & ALDRICH INC

Client Sample ID: DP\_9T\_2\_20\_122001

General Chemistry

Lot-Sample #....: E1L200353-008 Work Order #....: EQWL7 Matrix.....: SOLID  
Date Sampled...: 12/20/01 13:20 Date Received...: 12/20/01 17:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-		PREP
					ANALYSIS DATE	BATCH #	
pH (solid)	7.9	0.10	No Units	SW846 9045C	12/21/01	1355223	
	Dilution Factor: 1			Analysis Time...: 10:24		Analyst ID.....: 0000226	
	Instrument ID...: W07			MS Run #.....: 1355106		MDL.....	

**000026**

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_3\_5\_122001

## General Chemistry

Lot-Sample #....: E1L200353-009 Work Order #....: EQWL8 Matrix.....: SOLID  
Date Sampled...: 12/20/01 13:30 Date Received...: 12/20/01 17:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-		PREP
					ANALYSIS DATE	BATCH #	
pH (solid)	8.3	0.10	No Units	SW846 9045C	12/21/01	1355223	
		Dilution Factor: 1		Analysis Time...: 10:26		Analyst ID.....: 0000226	
		Instrument ID...: W07		MS Run #.....: 1355106		MDL.....:	

000027

HALEY & ALDRICH INC

Client Sample ID: DP\_9T\_3\_10\_122001

General Chemistry

Lot-Sample #....: E1L200353-010 Work Order #....: EQWL9 Matrix.....: SOLID  
Date Sampled...: 12/20/01 13:40 Date Received...: 12/20/01 17:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-		PREP
					ANALYSIS DATE	BATCH #	
pH (solid)	8.5	0.10	No Units	SW846 9045C	12/21/01	1355223	
	Dilution Factor: 1			Analysis Time...: 10:30		Analyst ID.....: 0000226	
	Instrument ID...: W07			MS Run #.....: 1355106		MDL.....:	

000028

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_3\_15\_122001

## General Chemistry

Lot-Sample #....: E1L200353-011 Work Order #....: EQWMA Matrix.....: SOLID  
Date Sampled...: 12/20/01 13:50 Date Received...: 12/20/01 17:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-	PREP
					ANALYSIS DATE	BATCH #
pH (solid)	7.7	0.10	No Units	SW846 9045C	12/21/01	1355223
		Dilution Factor: 1		Analysis Time...: 10:32	Analyst ID.....: 0000226	
		Instrument ID...: W07		MS Run #.....: 1355106	MDL.....	

000029

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_3\_20\_122001

## General Chemistry

Lot-Sample #....: E1L200353-012 Work Order #....: EQWMC Matrix.....: SOLID  
Date Sampled...: 12/20/01 14:00 Date Received...: 12/20/01 17:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-	PREP
					ANALYSIS DATE	BATCH #
pH (solid)	7.8	0.10	No Units	SW846 9045C	12/21/01	1055223
		Dilution Factor: 1		Analysis Time...: 10:34	Analyst ID.....: 0000226	
		Instrument ID...: W07		MS Run #.....: 1355106	MDL.....:	

000030

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_1\_5\_122001

## TOTAL Metals

Lot-Sample #....: E1L200353-001  
Date Sampled....: 12/20/01 12:00 Date Received...: 12/20/01 17:45

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS	ANALYSIS DATE			
<b>Prep Batch #....: 1355373</b>							
Aluminum	24600	20.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWLH1AA	
		Dilution Factor: 1		Analysis Time...: 14:47	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	8.0	
Arsenic	6.2	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWLH1AC	
		Dilution Factor: 1		Analysis Time...: 14:47	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.40	
Antimony	ND	..	6.0 mg/kg	SW846 6010B	12/21-12/26/01	EQWLH1AD	
		Dilution Factor: 1		Analysis Time...: 14:47	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.60	
Barium	134	2.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWLH1AE	
		Dilution Factor: 1		Analysis Time...: 14:47	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.10	
Cadmium	0.30 B	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWLH1AF	
		Dilution Factor: 1		Analysis Time...: 14:47	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.060	
Chromium	30.1 J	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWLH1AG	
		Dilution Factor: 1		Analysis Time...: 14:47	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.10	
Beryllium	0.93	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWLH1AH	
		Dilution Factor: 1		Analysis Time...: 14:47	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.050	
Lead	6.9	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWLH1AJ	
		Dilution Factor: 1		Analysis Time...: 14:47	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.30	
Selenium	ND	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWLH1AK	
		Dilution Factor: 1		Analysis Time...: 14:47	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.40	

(Continued on next page)

000031

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_1\_5\_122001

## TOTAL Metals

Lot-Sample #....: E1L200353-001

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK	ORDER #
		LIMIT	UNITS					
Silver	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLH1AL	
		Dilution Factor: 1			Analysis Time...: 14:47		Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.10	
Cobalt	11.9	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLH1AM	
		Dilution Factor: 1			Analysis Time...: 14:47		Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.10	
Copper	19.1	2.5	mg/kg		SW846 6010B	12/21-12/26/01	EQWLH1AN	
		Dilution Factor: 1			Analysis Time...: 14:47		Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.40	
Molybdenum	0.31 B	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLH1AP	
		Dilution Factor: 1			Analysis Time...: 14:47		Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.30	
Nickel	16.0	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLH1AQ	
		Dilution Factor: 1			Analysis Time...: 14:47		Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.30	
Thallium	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLH1AR	
		Dilution Factor: 1			Analysis Time...: 14:47		Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.80	
Vanadium	56.9	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLH1AT	
		Dilution Factor: 1			Analysis Time...: 14:47		Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.10	
Zinc	64.6	2.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLH1AU	
		Dilution Factor: 1			Analysis Time...: 14:47		Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 1.0	
Prep Batch #....: 1355386								
Mercury	0.062 B	0.10	mg/kg		SW846 7471A	12/26/01	EQWLH1AV	
		Dilution Factor: 1			Analysis Time...: 13:28		Analyst ID.....: 000023	
		Instrument ID...: M04			MS Run #.....: 1355167		MDL.....: 0.020	

NOTE (S) :

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

000032

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_1\_10\_122001

## TOTAL Metals

Lot-Sample #....: E1L200353-002  
 Date Sampled...: 12/20/01 12:20 Date Received...: 12/20/01 17:45 Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #....: 1355373							
Aluminum	28100	20.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWLW1AA	
		Dilution Factor: 1		Analysis Time...: 15:19	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	8.0	
Arsenic	5.9	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWLW1AC	
		Dilution Factor: 1		Analysis Time...: 15:19	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.40	
Antimony	ND	6.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWLW1AD	
		Dilution Factor: 1		Analysis Time...: 15:19	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.60	
Barium	137	2.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWLW1AE	
		Dilution Factor: 1		Analysis Time...: 15:19	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.10	
Cadmium	0.88	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWLW1AF	
		Dilution Factor: 1		Analysis Time...: 15:19	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.060	
Chromium	37.5 J	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWLW1AG	
		Dilution Factor: 1		Analysis Time...: 15:19	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.10	
Beryllium	1.1	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWLW1AH	
		Dilution Factor: 1		Analysis Time...: 15:19	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.050	
Lead	7.6	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWLW1AJ	
		Dilution Factor: 1		Analysis Time...: 15:19	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.30	
Selenium	ND	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWLW1AK	
		Dilution Factor: 1		Analysis Time...: 15:19	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.40	

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000033

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_1\_10\_122001

## TOTAL Metals

Lot-Sample #....: E1L200353-002

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK	ORDER #
		LIMIT	UNITS					
Silver	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLW1AL	
		Dilution Factor: 1			Analysis Time...: 15:19		Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.10	
Cobalt	14.4	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLW1AM	
		Dilution Factor: 1			Analysis Time...: 15:19		Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.10	
Copper	37.9	2.5	mg/kg		SW846 6010B	12/21-12/26/01	EQWLW1AN	
		Dilution Factor: 1			Analysis Time...: 15:19		Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.40	
Molybdenum	0.72 B	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLW1AP	
		Dilution Factor: 1			Analysis Time...: 15:19		Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.30	
Nickel	26.3	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLW1AQ	
		Dilution Factor: 1			Analysis Time...: 15:19		Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.30	
Thallium	1.4	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLW1AR	
		Dilution Factor: 1			Analysis Time...: 15:19		Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.80	
Vanadium	78.8	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLW1AT	
		Dilution Factor: 1			Analysis Time...: 15:19		Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.10	
Zinc	83.3	2.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLW1AU	
		Dilution Factor: 1			Analysis Time...: 15:19		Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 1.0	
Prep Batch #....: 1355386								
Mercury	0.054 B	0.10	mg/kg		SW846 7471A	12/26/01	EQWLW1AV	
		Dilution Factor: 1			Analysis Time...: 15:37		Analyst ID.....: 000023	
		Instrument ID...: M04			MS Run #.....: 1355167		MDL.....: 0.020	

NOTE (S) :

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

000034

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_1\_15\_122001

## TOTAL Metals

Lot-Sample #....: E1L200353-003 Matrix.....: SOLID  
 Date Sampled....: 12/20/01 12:30 Date Received...: 12/20/01 17:45

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- WORK	
		LIMIT	UNITS	ANALYSIS DATE		ORDER #	
<b>Prep Batch #....: 1355373</b>							
Aluminum	20100	20.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWLX1AA	
		Dilution Factor: 1		Analysis Time...: 15:27	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	8.0	
Arsenic	4.6	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWLX1AC	
		Dilution Factor: 1		Analysis Time...: 15:27	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.40	
Antimony	ND	6.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWLX1AD	
		Dilution Factor: 1		Analysis Time...: 15:27	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.60	
Barium	1470	4.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWLX1AE	
		Dilution Factor: 2		Analysis Time...: 19:36	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.10	
Cadmium	0.62	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWLX1AF	
		Dilution Factor: 1		Analysis Time...: 15:27	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.060	
Chromium	28.0 J	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWLX1AG	
		Dilution Factor: 1		Analysis Time...: 15:27	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.10	
Beryllium	0.85	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWLX1AH	
		Dilution Factor: 1		Analysis Time...: 15:27	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.050	
Lead	5.5	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWLX1AJ	
		Dilution Factor: 1		Analysis Time...: 15:27	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.30	
Selenium	ND	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWLX1AK	
		Dilution Factor: 1		Analysis Time...: 15:27	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.40	

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000035

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_1\_15\_122001

## TOTAL Metals

Lot-Sample #...: E1L200353-003

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Silver	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLX1AL
		Dilution Factor: 1			Analysis Time...: 15:27	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.10	
Cobalt	11.5	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLX1AM
		Dilution Factor: 1			Analysis Time...: 15:27	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.10	
Copper	27.9	2.5	mg/kg		SW846 6010B	12/21-12/26/01	EQWLX1AN
		Dilution Factor: 1			Analysis Time...: 15:27	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.40	
Molybdenum	ND	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLX1AP
		Dilution Factor: 1			Analysis Time...: 15:27	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.30	
Nickel	19.3	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLX1AQ
		Dilution Factor: 1			Analysis Time...: 15:27	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.30	
Thallium	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLX1AR
		Dilution Factor: 1			Analysis Time...: 15:27	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.80	
Vanadium	61.9	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLX1AT
		Dilution Factor: 1			Analysis Time...: 15:27	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.10	
Zinc	69.4	2.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWLX1AU
		Dilution Factor: 1			Analysis Time...: 15:27	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 1.0	
Prep Batch #...: 1355386							
Mercury	0.039 B	0.10	mg/kg		SW846 7471A	12/26/01	EQWLX1AV
		Dilution Factor: 1			Analysis Time...: 13:36	Analyst ID.....: 000023	
		Instrument ID...: M04			MS Run #.....: 1355167	MDL.....: 0.020	

NOTE(S) :

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

000036

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_1\_20\_122001

## TOTAL Metals

Lot-Sample #....: E1L200353-004  
 Date Sampled...: 12/20/01 12:40 Date Received..: 12/20/01 17:45 Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>Prep Batch #....: 1355373</b>						
Aluminum	25100	20.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL01AA
		Dilution Factor: 1		Analysis Time...: 15:49	Analyst ID.....:	021088
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	8.0
Arsenic	4.5	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL01AC
		Dilution Factor: 1		Analysis Time...: 15:49	Analyst ID.....:	021088
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.40
Antimony	ND	6.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL01AD
		Dilution Factor: 1		Analysis Time...: 15:49	Analyst ID.....:	021088
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.60
Barium	184	2.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL01AE
		Dilution Factor: 1		Analysis Time...: 15:49	Analyst ID.....:	021088
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.10
Cadmium	1.0	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL01AF
		Dilution Factor: 1		Analysis Time...: 15:49	Analyst ID.....:	021088
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.060
Chromium	32.5 J	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL01AG
		Dilution Factor: 1		Analysis Time...: 15:49	Analyst ID.....:	021088
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.10
Beryllium	1.0	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL01AH
		Dilution Factor: 1		Analysis Time...: 15:49	Analyst ID.....:	021088
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.050
Lead	6.7	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL01AJ
		Dilution Factor: 1		Analysis Time...: 15:49	Analyst ID.....:	021088
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.30
Selenium	ND	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL01AK
		Dilution Factor: 1		Analysis Time...: 15:49	Analyst ID.....:	021088
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.40

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000037

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_1\_20\_122001

## TOTAL Metals

Lot-Sample #....: E1L200353-004

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Silver	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL01AL
		Dilution Factor: 1			Analysis Time...: 15:49	Analyst ID.....:	021088
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....:	0.10
Cobalt	13.1	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL01AM
		Dilution Factor: 1			Analysis Time...: 15:49	Analyst ID.....:	021088
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....:	0.10
Copper	38.2	2.5	mg/kg		SW846 6010B	12/21-12/26/01	EQWL01AN
		Dilution Factor: 1			Analysis Time...: 15:49	Analyst ID.....:	021088
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....:	0.40
Molybdenum	0.44 B	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL01AP
		Dilution Factor: 1			Analysis Time...: 15:49	Analyst ID.....:	021088
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....:	0.30
Nickel	20.6	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL01AQ
		Dilution Factor: 1			Analysis Time...: 15:49	Analyst ID.....:	021088
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....:	0.30
Thallium	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL01AR
		Dilution Factor: 1			Analysis Time...: 15:49	Analyst ID.....:	021088
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....:	0.80
Vanadium	68.8	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL01AT
		Dilution Factor: 1			Analysis Time...: 15:49	Analyst ID.....:	021088
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....:	0.10
Zinc	92.3	2.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL01AU
		Dilution Factor: 1			Analysis Time...: 15:49	Analyst ID.....:	021088
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....:	1.0
Prep Batch #....: 1355386							
Mercury	0.036 B	0.10	mg/kg		SW846 7471A	12/26/01	EQWL01AV
		Dilution Factor: 1			Analysis Time...: 13:37	Analyst ID.....:	000023
		Instrument ID...: M04			MS Run #.....: 1355167	MDL.....:	0.020

NOTE (S) :

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

000038

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_2\_5\_122001

## TOTAL Metals

Lot-Sample #....: E1L200353-005  
 Date Sampled...: 12/20/01 12:40 Date Received...: 12/20/01 17:45 Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS	ANALYSIS DATE			
<b>Prep Batch #....: 1355373</b>							
Aluminum	24900	20.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL21AA	
		Dilution Factor: 1		Analysis Time...: 12:59	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	8.0	
Arsenic	3.6	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL21AC	
		Dilution Factor: 1		Analysis Time...: 12:59	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.40	
Antimony	ND	..	6.0 mg/kg	SW846 6010B	12/21-12/26/01	EQWL21AD	
		Dilution Factor: 1		Analysis Time...: 12:59	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.60	
Barium	121	2.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL21AE	
		Dilution Factor: 1		Analysis Time...: 12:59	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.10	
Cadmium	ND	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL21AF	
		Dilution Factor: 1		Analysis Time...: 12:59	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.060	
Chromium	27.5 J	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL21AG	
		Dilution Factor: 1		Analysis Time...: 12:59	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.10	
Beryllium	0.78	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL21AH	
		Dilution Factor: 1		Analysis Time...: 12:59	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.050	
Lead	5.9	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL21AJ	
		Dilution Factor: 1		Analysis Time...: 12:59	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.30	
Selenium	ND	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL21AK	
		Dilution Factor: 1		Analysis Time...: 12:59	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.40	

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000039

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_2\_5\_122001

## TOTAL Metals

Lot-Sample #...: E1L200353-005

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK	ANALYSIS DATE	ORDER #
		LIMIT	UNITS						
Silver	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL21AL		
		Dilution Factor: 1			Analysis Time...: 12:59		Analyst ID.....: 021088		
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.10		
Cobalt	11.5	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL21AM		
		Dilution Factor: 1			Analysis Time...: 12:59		Analyst ID.....: 021088		
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.10		
Copper	18.8	2.5	mg/kg		SW846 6010B	12/21-12/26/01	EQWL21AN		
		Dilution Factor: 1			Analysis Time...: 12:59		Analyst ID.....: 021088		
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.40		
Molybdenum	0.36 B	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL21AP		
		Dilution Factor: 1			Analysis Time...: 12:59		Analyst ID.....: 021088		
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.30		
Nickel	17.0	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL21AQ		
		Dilution Factor: 1			Analysis Time...: 12:59		Analyst ID.....: 021088		
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.30		
Thallium	1.1	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL21AR		
		Dilution Factor: 1			Analysis Time...: 12:59		Analyst ID.....: 021088		
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.80		
Vanadium	57.5	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL21AT		
		Dilution Factor: 1			Analysis Time...: 12:59		Analyst ID.....: 021088		
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.10		
Zinc	60.1	2.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL21AU		
		Dilution Factor: 1			Analysis Time...: 12:59		Analyst ID.....: 021088		
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 1.0		
Prep Batch #...: 1355386									
Mercury	0.041 B	0.10	mg/kg		SW846 7471A	12/26/01	EQWL21AV		
		Dilution Factor: 1			Analysis Time...: 13:43		Analyst ID.....: 000023		
		Instrument ID...: M04			MS Run #.....: 1355167		MDL.....: 0.020		

## NOTE (S) :

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

000040

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_2\_10\_122001

## TOTAL Metals

Lot-Sample #....: E1L200353-006

Matrix.....: SOLID

Date Sampled...: 12/20/01 13:00 Date Received..: 12/20/01 17:45

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>			<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>	<u>ANALYSIS DATE</u>		<u>ANALYST ORDER #</u>	
<b>Prep Batch #....: 1355373</b>							
Aluminum	26100	20.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL41AC	
		Dilution Factor: 1		Analysis Time...: 13:07	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	8.0	
Arsenic	4.0	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL41AD	
		Dilution Factor: 1		Analysis Time...: 13:07	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.40	
Antimony	ND	6.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL41AE	
		Dilution Factor: 1		Analysis Time...: 13:07	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.60	
Barium	126	2.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL41AF	
		Dilution Factor: 1		Analysis Time...: 13:07	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.10	
Cadmium	ND	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL41AG	
		Dilution Factor: 1		Analysis Time...: 13:07	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.060	
Chromium	31.7 J	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL41AH	
		Dilution Factor: 1		Analysis Time...: 13:07	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.10	
Beryllium	0.84	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL41AJ	
		Dilution Factor: 1		Analysis Time...: 13:07	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.050	
Lead	6.5	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL41AK	
		Dilution Factor: 1		Analysis Time...: 13:07	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.30	
Selenium	ND	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL41AL	
		Dilution Factor: 1		Analysis Time...: 13:07	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.40	

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000041

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_2\_10\_122001

## TOTAL Metals

Lot-Sample #...: E1L200353-006

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Silver	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL41AM
		Dilution Factor: 1			Analysis Time...: 13:07	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.10	
Cobalt	14.1	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL41AN
		Dilution Factor: 1			Analysis Time...: 13:07	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.10	
Copper	29.5	2.5	mg/kg		SW846 6010B	12/21-12/26/01	EQWL41AP
		Dilution Factor: 1			Analysis Time...: 13:07	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.40	
Molybdenum	0.38 B	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL41AQ
		Dilution Factor: 1			Analysis Time...: 13:07	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.30	
Nickel	20.8	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL41AR
		Dilution Factor: 1			Analysis Time...: 13:07	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.30	
Thallium	1.3	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL41AT
		Dilution Factor: 1			Analysis Time...: 13:07	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.80	
Vanadium	67.4	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL41AU
		Dilution Factor: 1			Analysis Time...: 13:07	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.10	
Zinc	76.3	2.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL41AV
		Dilution Factor: 1			Analysis Time...: 13:07	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 1.0	
Prep Batch #...: 1355386							
Mercury	0.036 B	0.10	mg/kg		SW846 7471A	12/26/01	EQWL41AW
		Dilution Factor: 1			Analysis Time...: 13:44	Analyst ID.....: 000023	
		Instrument ID...: M04			MS Run #.....: 1355167	MDL.....: 0.020	

NOTE(S) :

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

000042

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_2\_15\_122001

## TOTAL Metals

Lot-Sample #...: E1L200353-007

Matrix.....: SOLID

Date Sampled...: 12/20/01 13:10 Date Received..: 12/20/01 17:45

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- WORK	
		LIMIT	UNITS	ANALYSIS DATE		ORDER #	
<b>Prep Batch #...: 1355373</b>							
Aluminum	24600	20.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL61AC	
		Dilution Factor: 1		Analysis Time...: 13:15	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	8.0	
Arsenic	4.1	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL61AD	
		Dilution Factor: 1		Analysis Time...: 13:15	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.40	
Antimony	ND	--	6.0 mg/kg	SW846 6010B	12/21-12/26/01	EQWL61AE	
		Dilution Factor: 1		Analysis Time...: 13:15	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.60	
Barium	130	2.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL61AF	
		Dilution Factor: 1		Analysis Time...: 13:15	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.10	
Cadmium	ND	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL61AG	
		Dilution Factor: 1		Analysis Time...: 13:15	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.060	
Chromium	33.3 J	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL61AH	
		Dilution Factor: 1		Analysis Time...: 13:15	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.10	
Beryllium	0.77	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL61AJ	
		Dilution Factor: 1		Analysis Time...: 13:15	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.050	
Lead	6.2	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL61AK	
		Dilution Factor: 1		Analysis Time...: 13:15	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.30	
Selenium	ND	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL61AL	
		Dilution Factor: 1		Analysis Time...: 13:15	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.40	

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000043

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_2\_15\_122001

## TOTAL Metals

Lot-Sample #...: E1L200353-007

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Silver	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL61AM
		Dilution Factor: 1			Analysis Time...: 13:15	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.10	
Cobalt	11.4	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL61AN
		Dilution Factor: 1			Analysis Time...: 13:15	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.10	
Copper	44.8	2.5	mg/kg		SW846 6010B	12/21-12/26/01	EQWL61AP
		Dilution Factor: 1			Analysis Time...: 13:15	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.40	
Molybdenum	0.49 B	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL61AQ
		Dilution Factor: 1			Analysis Time...: 13:15	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.30	
Nickel	20.7	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL61AR
		Dilution Factor: 1			Analysis Time...: 13:15	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.30	
Thallium	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL61AT
		Dilution Factor: 1			Analysis Time...: 13:15	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.80	
Vanadium	62.9	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL61AU
		Dilution Factor: 1			Analysis Time...: 13:15	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.10	
Zinc	77.5	2.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL61AV
		Dilution Factor: 1			Analysis Time...: 13:15	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 1.0	
Prep Batch #...: 1355386							
Mercury	0.044 B	0.10	mg/kg		SW846 7471A	12/26/01	EQWL61AW
		Dilution Factor: 1			Analysis Time...: 13:46	Analyst ID.....: 000023	
		Instrument ID...: M04			MS Run #.....: 1355167	MDL.....: 0.020	

NOTE(S) :

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

000044

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_2\_20\_122001

## TOTAL Metals

Lot-Sample #....: E1L200353-008  
 Date Sampled...: 12/20/01 13:20 Date Received...: 12/20/01 17:45 Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS	ANALYSIS DATE			
<b>Prep Batch #....: 1355373</b>							
Aluminum	30600	20.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL71AA	
		Dilution Factor: 1		Analysis Time...: 13:23		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 8.0	
Arsenic	5.2	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL71AC	
		Dilution Factor: 1		Analysis Time...: 13:23		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.40	
Antimony	ND	..	6.0 mg/kg	SW846 6010B	12/21-12/26/01	EQWL71AD	
		Dilution Factor: 1		Analysis Time...: 13:23		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.60	
Barium	221	2.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL71AE	
		Dilution Factor: 1		Analysis Time...: 13:23		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.10	
Cadmium	0.60	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL71AF	
		Dilution Factor: 1		Analysis Time...: 13:23		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.060	
Chromium	37.5 J	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL71AG	
		Dilution Factor: 1		Analysis Time...: 13:23		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.10	
Beryllium	1.1	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL71AH	
		Dilution Factor: 1		Analysis Time...: 13:23		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.050	
Lead	10.2	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL71AJ	
		Dilution Factor: 1		Analysis Time...: 13:23		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.30	
Selenium	ND	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL71AK	
		Dilution Factor: 1		Analysis Time...: 13:23		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.40	

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000045

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_2\_20\_122001

## TOTAL Metals

Lot-Sample #....: E1L200353-008

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Silver	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL71AL
		Dilution Factor: 1			Analysis Time...: 13:23	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.10	
Cobalt	15.9	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL71AM
		Dilution Factor: 1			Analysis Time...: 13:23	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.10	
Copper	46.8	2.5	mg/kg		SW846 6010B	12/21-12/26/01	EQWL71AN
		Dilution Factor: 1			Analysis Time...: 13:23	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.40	
Molybdenum	0.44 B	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL71AP
		Dilution Factor: 1			Analysis Time...: 13:23	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.30	
Nickel	26.7	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL71AQ
		Dilution Factor: 1			Analysis Time...: 13:23	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.30	
Thallium	1.2	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL71AR
		Dilution Factor: 1			Analysis Time...: 13:23	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.80	
Vanadium	79.7	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL71AT
		Dilution Factor: 1			Analysis Time...: 13:23	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.10	
Zinc	109	2.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL71AU
		Dilution Factor: 1			Analysis Time...: 13:23	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 1.0	
Prep Batch #....: 1355386							
Mercury	0.040 B	0.10	mg/kg		SW846 7471A	12/26/01	EQWL71AV
		Dilution Factor: 1			Analysis Time...: 13:48	Analyst ID.....: 000023	
		Instrument ID...: M04			MS Run #.....: 1355167	MDL.....: 0.020	

**NOTE(S) :**

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

000046

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_3\_5\_122001

## TOTAL Metals

Lot-Sample #...: E1L200353-009

Matrix.....: SOLID

Date Sampled...: 12/20/01 13:30 Date Received...: 12/20/01 17:45

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
<b>Prep Batch #...: 1355373</b>							
Aluminum	7450	20.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL81AA	
		Dilution Factor: 1		Analysis Time...: 13:31		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 8.0	
Arsenic	3.7	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL81AC	
		Dilution Factor: 1		Analysis Time...: 13:31		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.40	
Antimony	ND	6.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL81AD	
		Dilution Factor: 1		Analysis Time...: 13:31		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.60	
Barium	63.9	2.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL81AE	
		Dilution Factor: 1		Analysis Time...: 13:31		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.10	
Cadmium	ND	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL81AF	
		Dilution Factor: 1		Analysis Time...: 13:31		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.060	
Chromium	9.8 J	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL81AG	
		Dilution Factor: 1		Analysis Time...: 13:31		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.10	
Beryllium	0.36 B	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL81AH	
		Dilution Factor: 1		Analysis Time...: 13:31		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.050	
Lead	4.2	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL81AJ	
		Dilution Factor: 1		Analysis Time...: 13:31		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.30	
Selenium	ND	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL81AK	
		Dilution Factor: 1		Analysis Time...: 13:31		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.40	

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000047

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_3\_5\_122001

## TOTAL Metals

Lot-Sample #...: E1L200353-009

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Silver	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL81AL
		Dilution Factor: 1		Analysis Time...: 13:31		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.10	
Cobalt	4.8 B	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL81AM
		Dilution Factor: 1		Analysis Time...: 13:31		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.10	
Copper	13.9	2.5	mg/kg		SW846 6010B	12/21-12/26/01	EQWL81AN
		Dilution Factor: 1		Analysis Time...: 13:31		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.40	
Molybdenum	ND	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL81AP
		Dilution Factor: 1		Analysis Time...: 13:31		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.30	
Nickel	7.7	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL81AQ
		Dilution Factor: 1		Analysis Time...: 13:31		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.30	
Thallium	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL81AR
		Dilution Factor: 1		Analysis Time...: 13:31		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.80	
Vanadium	23.8	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL81AT
		Dilution Factor: 1		Analysis Time...: 13:31		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 0.10	
Zinc	31.2	2.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL81AU
		Dilution Factor: 1		Analysis Time...: 13:31		Analyst ID.....: 021088	
		Instrument ID...: M01		MS Run #.....: 1355165		MDL.....: 1.0	
<b>Prep Batch #...: 1355386</b>							
Mercury	0.038 B	0.10	mg/kg		SW846 7471A	12/26/01	EQWL81AV
		Dilution Factor: 1		Analysis Time...: 13:49		Analyst ID.....: 000023	
		Instrument ID...: M04		MS Run #.....: 1355167		MDL.....: 0.020	

**NOTE(S) :**

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

000048

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_3\_10\_122001

## TOTAL Metals

Lot-Sample #...: E1L200353-010 Matrix.....: SOLID  
 Date Sampled...: 12/20/01 13:40 Date Received...: 12/20/01 17:45

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>Prep Batch #...: 1355373</b>						
Aluminum	29800	20.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL91AA
		Dilution Factor: 1		Analysis Time...: 13:39	Analyst ID.....:	021088
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	8.0
Arsenic	5.4	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL91AC
		Dilution Factor: 1		Analysis Time...: 13:39	Analyst ID.....:	021088
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.40
Antimony	ND	6.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL91AD
		Dilution Factor: 1		Analysis Time...: 13:39	Analyst ID.....:	021088
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.60
Barium	162	2.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL91AE
		Dilution Factor: 1		Analysis Time...: 13:39	Analyst ID.....:	021088
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.10
Cadmium	0.47 B	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL91AF
		Dilution Factor: 1		Analysis Time...: 13:39	Analyst ID.....:	021088
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.060
Chromium	41.0 J	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWL91AG
		Dilution Factor: 1		Analysis Time...: 13:39	Analyst ID.....:	021088
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.10
Beryllium	1.0	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL91AH
		Dilution Factor: 1		Analysis Time...: 13:39	Analyst ID.....:	021088
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.050
Lead	8.0	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL91AJ
		Dilution Factor: 1		Analysis Time...: 13:39	Analyst ID.....:	021088
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.30
Selenium	ND	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWL91AK
		Dilution Factor: 1		Analysis Time...: 13:39	Analyst ID.....:	021088
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.40

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000049

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_3\_10\_122001

## TOTAL Metals

Lot-Sample #....: E1L200353-010

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Silver	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL91AL
		Dilution Factor: 1			Analysis Time...: 13:39		Analyst ID.....: 021088
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.10
Cobalt	14.8	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL91AM
		Dilution Factor: 1			Analysis Time...: 13:39		Analyst ID.....: 021088
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.10
Copper	43.8	2.5	mg/kg		SW846 6010B	12/21-12/26/01	EQWL91AN
		Dilution Factor: 1			Analysis Time...: 13:39		Analyst ID.....: 021088
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.40
Molybdenum	0.56 B	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL91AB
		Dilution Factor: 1			Analysis Time...: 13:39		Analyst ID.....: 021088
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.30
Nickel	28.2	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL91AQ
		Dilution Factor: 1			Analysis Time...: 13:39		Analyst ID.....: 021088
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.30
Thallium	0.89 B	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL91AR
		Dilution Factor: 1			Analysis Time...: 13:39		Analyst ID.....: 021088
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.80
Vanadium	80.6	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL91AT
		Dilution Factor: 1			Analysis Time...: 13:39		Analyst ID.....: 021088
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 0.10
Zinc	91.6	2.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWL91AU
		Dilution Factor: 1			Analysis Time...: 13:39		Analyst ID.....: 021088
		Instrument ID...: M01			MS Run #.....: 1355165		MDL.....: 1.0
Prep Batch #....:	1355386						
Mercury	0.047 B	0.10	mg/kg		SW846 7471A	12/26/01	EQWL91AV
		Dilution Factor: 1			Analysis Time...: 13:51		Analyst ID.....: 000023
		Instrument ID...: M04			MS Run #.....: 1355167		MDL.....: 0.020

NOTE(S) :

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

000050

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_3\_15\_122001

## TOTAL Metals

Lot-Sample #....: E1L200353-011  
 Date Sampled...: 12/20/01 13:50 Date Received...: 12/20/01 17:45

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS	ANALYSIS DATE			
Prep Batch #....:	1355373						
Aluminum	19900	20.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWMA1AA	
		Dilution Factor: 1		Analysis Time...: 13:47	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	8.0	
Arsenic	4.2	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWMA1AC	
		Dilution Factor: 1		Analysis Time...: 13:47	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.40	
Antimony	ND	6.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWMA1AD	
		Dilution Factor: 1		Analysis Time...: 13:47	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.60	
Barium	124	2.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWMA1AE	
		Dilution Factor: 1		Analysis Time...: 13:47	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.10	
Cadmium	ND	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWMA1AF	
		Dilution Factor: 1		Analysis Time...: 13:47	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.060	
Chromium	28.3 J	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWMA1AG	
		Dilution Factor: 1		Analysis Time...: 13:47	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.10	
Beryllium	0.72	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWMA1AH	
		Dilution Factor: 1		Analysis Time...: 13:47	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.050	
Lead	5.2	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWMA1AJ	
		Dilution Factor: 1		Analysis Time...: 13:47	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.30	
Selenium	ND	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWMA1AK	
		Dilution Factor: 1		Analysis Time...: 13:47	Analyst ID.....:	021088	
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....:	0.40	

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## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_3\_15\_122001

## TOTAL Metals

Lot-Sample #...: E1L200353-011

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Silver	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWMA1AL
		Dilution Factor: 1			Analysis Time...: 13:47	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.10	
Cobalt	10.6	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWMA1AM
		Dilution Factor: 1			Analysis Time...: 13:47	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.10	
Copper	32.5	2.5	mg/kg		SW846 6010B	12/21-12/26/01	EQWMA1AN
		Dilution Factor: 1			Analysis Time...: 13:47	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.40	
Molybdenum	0.78 B	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWMA1AP
		Dilution Factor: 1			Analysis Time...: 13:47	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.30	
Nickel	20.3	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWMA1AQ
		Dilution Factor: 1			Analysis Time...: 13:47	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.30	
Thallium	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWMA1AR
		Dilution Factor: 1			Analysis Time...: 13:47	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.80	
Vanadium	58.0	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWMA1AT
		Dilution Factor: 1			Analysis Time...: 13:47	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.10	
Zinc	63.8	2.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWMA1AU
		Dilution Factor: 1			Analysis Time...: 13:47	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 1.0	
Prep Batch #...: 1355386							
Mercury	0.037 B	0.10	mg/kg		SW846 7471A	12/26/01	EQWMA1AV
		Dilution Factor: 1			Analysis Time...: 13:53	Analyst ID.....: 000023	
		Instrument ID...: M04			MS Run #.....: 1355167	MDL.....: 0.020	

NOTE(S) :

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

B Estimated result. Result is less than RL.

000052

## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_3\_20\_122001

## TOTAL Metals

Lot-Sample #....: E1L200353-012

Matrix.....: SOLID

Date Sampled...: 12/20/01 14:00 Date Received..: 12/20/01 17:45

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
<b>Prep Batch #....: 1355373</b>							
Aluminum	17400	20.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWMC1AA	
		Dilution Factor: 1		Analysis Time...: 14:09	Analyst ID.....: 021088		
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....: 8.0		
Arsenic	3.0	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWMC1AC	
		Dilution Factor: 1		Analysis Time...: 14:09	Analyst ID.....: 021088		
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....: 0.40		
Antimony	ND	6.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWMC1AD	
		Dilution Factor: 1		Analysis Time...: 14:09	Analyst ID.....: 021088		
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....: 0.60		
Barium	93.1	2.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWMC1AR	
		Dilution Factor: 1		Analysis Time...: 14:09	Analyst ID.....: 021088		
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....: 0.10		
Cadmium	0.12 B	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWMC1AF	
		Dilution Factor: 1		Analysis Time...: 14:09	Analyst ID.....: 021088		
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....: 0.060		
Chromium	21.3 J	1.0	mg/kg	SW846 6010B	12/21-12/26/01	EQWMC1AG	
		Dilution Factor: 1		Analysis Time...: 14:09	Analyst ID.....: 021088		
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....: 0.10		
Beryllium	0.71	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWMC1AH	
		Dilution Factor: 1		Analysis Time...: 14:09	Analyst ID.....: 021088		
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....: 0.050		
Lead	4.3	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWMC1AJ	
		Dilution Factor: 1		Analysis Time...: 14:09	Analyst ID.....: 021088		
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....: 0.30		
Selenium	ND	0.50	mg/kg	SW846 6010B	12/21-12/26/01	EQWMC1AK	
		Dilution Factor: 1		Analysis Time...: 14:09	Analyst ID.....: 021088		
		Instrument ID...: M01		MS Run #.....: 1355165	MDL.....: 0.40		

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## HALEY &amp; ALDRICH INC

Client Sample ID: DP\_9T\_3\_20\_122001

## TOTAL Metals

Lot-Sample #...: E1L200353-012

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK
		LIMIT	UNITS			ANALYSIS DATE	ORDER #
Silver	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWMC1AL
		Dilution Factor: 1			Analysis Time...: 14:09	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.10	
Cobalt	7.6	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWMC1AM
		Dilution Factor: 1			Analysis Time...: 14:09	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.10	
Copper	23.6	2.5	mg/kg		SW846 6010B	12/21-12/26/01	EQWMC1AN
		Dilution Factor: 1			Analysis Time...: 14:09	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.40	
Molybdenum	ND	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWMC1AP
		Dilution Factor: 1			Analysis Time...: 14:09	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.30	
Nickel	14.3	4.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWMC1AQ
		Dilution Factor: 1			Analysis Time...: 14:09	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.30	
Thallium	ND	1.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWMC1AR
		Dilution Factor: 1			Analysis Time...: 14:09	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.80	
Vanadium	46.3	5.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWMC1AT
		Dilution Factor: 1			Analysis Time...: 14:09	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 0.10	
Zinc	59.0	2.0	mg/kg		SW846 6010B	12/21-12/26/01	EQWMC1AU
		Dilution Factor: 1			Analysis Time...: 14:09	Analyst ID.....: 021088	
		Instrument ID...: M01			MS Run #.....: 1355165	MDL.....: 1.0	
Prep Batch #...: 1355386							
Mercury	0.067 B	0.10	mg/kg		SW846 7471A	12/26/01	EQWMC1AV
		Dilution Factor: 1			Analysis Time...: 13:55	Analyst ID.....: 000023	
		Instrument ID...: M04			MS Run #.....: 1355167	MDL.....: 0.020	

NOTE(S) :

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

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